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ORIGINAL ARTICLES.

A PROTEST AGAINST SOME OF THE EVILS IN THE PROFESSION OF MEDICINE.[1]

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THE honor of delivering the annual address on general medicine, which you have seen proper to confer on me, is one which I fully appreciate, and I now take the first opportunity presented to express to the Association as a whole my grateful thanks for so distinguished an honor.

I also take the liberty of hoping that what I may say at this time will receive the hearty approbation of this large body of representative men. Nearly all of my predecessors have spoken of the wonderful progress and brilliant successes of the profession, and, indeed, they have been truly marvelous. The latter half of the last century has been one grand triumphal march to the present high plane of rational, scientific, preventive medicine, until to-day we are utilizing every element in Nature to solve the many problems of disease.

Chemistry, with its fixed laws of precision, is now receiving its proper recognition and clearing many hitherto unknown fields of empiricism and doubt. The modern laboratory, with its multiplied methods of investigation, has done much to lift the veil of ignorance and mysticism which has so long obscured the true etiologic factor in many diseases, and made preventive medicine the grandest achievement of the age. The modern methods of differential diagnosis, more accurate clinical observations, confirmed by pathologic investigation, have done much toward making medicine an exact science.

We are justly proud of these accomplishments, and when we think of the vast army of laborers in this noble work of humanity and the daily spreading of this wonderful store of information broadcast through the medium of modern journalism, making it possible for the most obscure country doctor to keep fully abreast of the times, and by this means to acquire more knowledge in one year than could have been attained in a life-time, a century ago, we have every cause for self-congratulation.

But it is not the object of this address to linger over these bright, golden fields, except to express my thanks and grateful appreciation to my brothers in the profession. I deem it the proper time and place to call attention to some of the most grievous fallacies and hurtful errors that have fallen into the ranks during the onward march, in some instances obstructing the path to true and honorable progress. I am well aware that it is not politic at these annual reunions to call to mind unpleasant things, but we have a high and noble calling, the untarnished honor of which has been placed in our keeping by our illustrious forefathers in medicine, the protection of which should be as a sacred trust; hence, I dare strike the alarm-bell and call to arms those who are resting in a security born of a sense of duty well done. The old guard have long stood at the helm and safely guided the grand ship of honorable medicine into a harbor of calm where the Code of Ethics offers immunity to quacking, pathies and commercialism. But, while we are taking a well-earned rest, dark clouds have arisen, and threatening waves are breaking over the old ship. Therefore, I may be pardoned if I do not follow in the footsteps of some of my predecessors in omitting the advances of the past year, my excuse being an honest conviction of the necessity and an earnest desire, without malice, to protect the profession from the hurtful tendencies of the times.

Dictation by Pharmacal Companies.

The first stupendous error, one which is so vast in its influence that it hangs like a withering blight over the individuality of every man in the profession, is the dictation of the innumerable pharmacal companies, the self-constituted advisers in the treatment of diseases about which they know nothing, to the entire profession. All honor to worthy and legitimate scientific pharmacy; we should welcome it as a child of medicine, but, as is often the case, the child, as soon as it is out from under the wing of the parent, has grown "bigger than the daddy" and not only tells him how to treat every disease to which flesh is heir, but is condescending enough to formulate his prescriptions with full directions on them, many times omitting the formulæ, but always kindly telling him in what diseases to use them. They are so solicitous that they flood your office with blatant literature full of bombastic claims and cure-alls, and I am sorry to say, too frequently with certificates or articles used by permission from physicians who call themselves reputable. Of course, none of these doctors are members of this body, or even inhabitants of the United States, but live in our new possessions, or some other country without the privilege of resting in the bright light of the Code of Ethics of this Association—a code writ-

[1] Oration on Medicine before the fifty-first annual meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

ten by the fathers, broad and liberal enough for any true doctor to practise medicine under for a life-time, without a blush upon his cheek.

But that is not all; these drug-houses are so afraid that some one will die through your ignorance or before dull comprehension becomes alive to the merits of their preparations, that they send a man, frequently a doctor who was a howling success in the profession before his health failed, to tell you all about how to treat disease. He leaves you with the parting injunction to always specify his preparations, and with the friendly warning to watch the local druggist—whom you know all about—to keep him from substituting, while he assures you that he and his firm—about whom you know nothing—are the personification of honesty, and that you can always depend upon them and their preparations, as the plants from which they are compounded were gathered by their special agent from the grave of Esculapius. And thus they come, with samples galore, until you are reminded of the old southern negro song, "They are coming, Father Abraham, forty thousand strong," to spread the glad tidings of joy, and make every doctor their walking advertising agent. They are the only people in the world who, without seeing the patient, can tell you how to feed the baby, until he blossoms like the rose, or how to restore the rose-tinted bloom of health to the blanched cheek of the convalescent. They have an antiseptic that can chase the bacilli typhosi through the lymph-channels and pound them to death in the blood-vessels by throwing red blood-corpuscles at them, or the white blood-corpuscles are called up as a reserve, and the war of the roses is again enacted in the human body. Or, they make the emaciated consumptive so fat that he can hibernate and convert his distressing cough into a laugh of joy. Thus, I might enumerate indefinitely what great things they are doing for us, but seriously speaking, gentlemen, this is a curse to the profession, and takes from it its real scientific application, *viz.*, treating each case upon its merit.

In my humble judgment, the fostering of these establishments is a disgrace to honorable medicine. The true sphere of pharmacy is to make the official preparations of drugs and compound our prescriptions. When a doctor acknowledges his inability to formulate his own prescriptions to suit each case, then he should seek some other occupation, more to his taste of commercialism, or less trying by reason of his lack of qualification.

These institutions have such powerful influence, that every medical society meeting must furnish space for their wares, this frequently becoming a place of popular resort where various drinks are served, this taking from the meetings the interest in their scientific work. Yet they are not satisfied with this; it is reported that they have even gone so far as to insinuate themselves into the very body of some of the sections, and that at this meeting they propose to dictate and control the election of officials who are kindly disposed to the manufactured products of their laboratories. Can this be true? Can we rest under such an imputation and retain our self-respect? If these reports be true—and the journals are agitating them, and I have in my possession a letter from a drug house to a journal, making the charge—then, indeed, has the reputation of regular medicine descended to a lower level than I thought. We must have an investigation, and if these charges are true, the time has come for vigorous action. If there are those who are making our holy temple a house of merchandise, then we should drive them from our midst by the scourge of our indignation and contempt as did Christ the money-changers of Jerusalem.

Multiplication of Medical Colleges.

Next, I desire to call your attention to the rapid multiplication of medical colleges in this country. In doing this I do not wish to ignore the great work that has been done by the profession through the development and progress of medical education. The notable advances of the past twenty years, such as lengthening the course of study, laboratory work, etc., have been inspired by the profession, and we have greater reasons to be proud, when we remember that these improvements have been carried out without assistance of large endowments, for very few even of our best institutions have had such aid. But, while we give credit, we must also lay to the charge of the profession the increase in poorly-equipped institutions that have been born of no need, and that are fostered to no good end. This evil has become especially marked in our great cities. It has become a fad and a means of advertising to organize a poorly-equipped medical college, both in teachers and modern means of instruction. The result is cheap notoriety, half prepared students, cheap rates and cheap doctors who bring discredit upon the profession and death to innocent people and who, as a last resort, go into politics and help enact laws harmful to the high standard of honorable medicine.

This induces young, inexperienced graduates to go immediately into a specialty, without experience or special fitness, which is never justifiable. No man is prepared to go into any special field until he has done general work to familiarize himself with disease in all of its phases, and neglect of this training is responsible for so many extremists who never temper their thirst for notoriety with common sense. It is this which has caused the loss of many lives and much unnecessary mutilation of the human body. It is this that gives birth to fads and faddists. It is more than probable that the appendix of our forefathers occupied a position downward from its cecal attachment until the surgical dictum went forth, "No man is a perfect man, so long as he has his appendix." Now you find this trouble-

some little remains of the "missing link" has left its normal habitat and hidden behind the cecal pouch.

Again, take the spectacle fad. Glasses in the past were an insignia of honorable old age; now we truly find them from the cradle to the grave. Even the negro "coon," who has been noted for keenness of vision, following the uncertain meanderings of the opossum with unerring precision during the dark of the moon, or seeing a chicken on the highest roost the darkest night, must now have "specs" to walk the streets in broad daylight.

All honor to true and legitimate specialism; it should be welcome and aided by every general practitioner, as a scientific and correct division of labor in a field broad enough for all, but this rushing into specialism without the above preparation is truly appalling, and, in my opinion, is injurious, not only to the general profession, but to the truly well-equipped specialist.

Laboratory Diagnosis.

I desire to call attention to another serious error which seems to be the popular tendency of the times. I refer to laboratory diagnosis regardless of clinical symptoms. The microscopic demonstration of the presence of etiologic germs of a disease is not sufficient for diagnosis, but only confirmatory; the clinical manifestations should be present, and the close and careful observer at the bedside must remain the highest court, and chemical and microscopic tests his aids. I believe in adhering to bedside experience. The considering of the case in all its details—history, tendencies, vitality, general aspect, physical signs, subjective and objective symptoms—aided by the microscope and modern methods of research, when needed, is the only way to practise medicine with justice to yourself and safety to the patient. It is an unfortunate fact that many laboratory men know the habits, morphology and methods of culture and staining of pathologic bacteria far better than they understand by experience or observation the diseases these bacteria produce. We must not lose sight of the fact that, while it is right and gratifying that this work is being done and is of great value to medicine, our true mission is to save human life.

Medical Politics.

Here let me express my earnest condemnation of medical politics. I am old fogy enough to believe that we should confer honors upon those to whom honor is due, and method of wire-pulling, or resorting to the tricks of ward politicians, is unbecoming and should not exist in a medical society, especially in this, the largest and most influential medical society in the country. It can only bring discredit to its members and cripple its usefulness. Here, the queen of professional ethics should reign supreme, and, by the light of example, shed her beneficent luster upon the world. The man of true merit, to whom his professional brethren would naturally turn when honors are to be conferred, is often overlooked because his modesty prevents him from advancing his own interests, while men of less ability, but with more "pull," are placed in positions of honor. This should not be.

One of the most grievous and dangerous errors is the present system of quarantine against epidemic diseases. I refer to local boards of health acting independently, often composed of most inefficient men who owe their position to political preferment rather than to any special fitness for the place. State boards acting independently of other boards are largely responsible for the shotgun quarantine, useless disturbance of business and often ineffectual attempts at protection.

If there is any one department of medicine which stands preeminently in the front rank of advancement in this progressive age it is preventive medicine, and, with our increased knowledge, it is a reflection that any serious epidemic disease should gain a foothold on American soil. The only way to prevent this is by giving the power to a National Board of Health. Away with the old political cry of State rights when the lives of our people are threatened. Let us place the strong arm of this Government around this land, unhampered by petty jealousy and minor boards. We are confronted by a serious and grave question involving this very principle. Even now, at the Golden Gate, which has always stood wide open to welcome the stranger, that fearful scourge, bubonic plague, has insidiously gained admission. This Association has time and again, directly and indirectly, expressed its views upon this subject, and appealed to the nation through its representatives, but as yet the full measure has not been meted out. When war with Spain was declared, millions of good "coin of the realm" was voted, and a million men stood ready to enlist and fight for the flag of the grandest country on earth. And yet, a disease is threatening us now, which has claimed more victims than the combined armies of the world, and finds us unprepared to meet it properly. We must make united efforts in the establishment of a National Board of Health, clothed with legal power and supplied with the necessary funds, to protect our people from these threatened invasions of the pestilence that stalketh by night and wasteth by noonday, peering with his grim face and shaking his matted locks, while from his parched lips he emits the gibberish of a foreign tongue. When armies and strong men falter, and tardy statesmen sit with faces pallid by fear and guilty conscience, then the world will turn to us, as the protectors of human life, to buckle on our armor and advance to meet the foe, and we must be prepared to do as our profession has always done—advance with a cool head, a brave heart, and unselfish love for our fellow-man.

If by united effort we can get Congress to see that no department, not even the Treasury, is more important than the health of our people, and if we can have our Chief Executive appoint the man for the position, allowing the same assistants and clerks as that of any other of the departments, then we shall be able to stop the invasion of foreign disease, and surely every patriotic citizen can trust the President, regardless of politics, under proper laws enacted by our representatives, to solve this weighty problem.

Indiscriminate Use of Narcotics.

We should at this time sound a note of warning upon the growing tendency on the part of many physicians to use morphine and cocaine indiscriminately. There are but few men here of wide experience who do not daily come in contact with practitioners whose panacea for everything is opium in some of its forms, and while I regard it as a wonderful remedy, capable of great good when judiciously used, I am bound to say that when used as it is by some doctors, it is productive of terrible results. The morphine habit is growing at an alarming rate, and we can not shift the responsibility, but must acknowledge that we are culpable in too often giving this seductive siren until the will-power is gone, and a moral and physical wreck is sent down to shame and degradation, often committing crimes while in the toils of his perverted nature. Nor do the fearful results stop here; too often these tendencies are transmitted to the offspring and these innocent victims are brought into the world, half-made mentally, morally and physically, thoroughly unfitted for the many emergencies of life. Ah, brothers! We, the representatives of the grandest and noblest profession in the world, with the God-given mission of making growth more perfect, life more certain and death more remote, must shoulder the responsibility, follow in the footsteps of the Great First Physician, and warn and save our people from the clutches of this hydra-headed monster which stalks abroad throughout the civilized world, wrecking lives and happy homes, filling our jails and lunatic asylums, and taking from these unfortunates the precious promises of eternal life. The hypodermic "shot," as it is affectionately called, is too often given in a stomach-ache, when a dose of oil is needed, or to relieve painful menstruation month after month, until the bright, rosy-tinted cheek of health and the brilliant eye of youth and healthy young womanhood give way to the dry, pigmented skin and the leaden expressionless eyes of the morphine habitué, and a life full of promise and usefulness is blighted forever. Why not seek and remove the cause of these, as well as many other ills for which morphine is given, and thus avoid the specter which, if you are a conscientious physician, will follow you through life and like Banquo's ghost will not down? The same can be said of cocaine, which is rapidly becoming a national evil, because of its indiscriminate use in minor surgical operations, and of the unnecessary and hurtful information too often given the laity of its seductive influence on human beings.

Useless Multiplication of Books.

In approaching the next subject, I feel, before this body, like following the example of the great lawgiver and taking off my shoes, for I realize I am on holy ground. But remembering the maxim of one of the pioneer heroes of my native State, "Be sure you are right, and then go ahead," I have determined to offer my feeble protest against the useless multiplication of books and authors. Every progressive man in the profession feels the necessity of keeping fully abreast of the times, and when a new book is published, will purchase it for fear he may lose some valuable information, too often, to find many of them poor copies of other works, without an original thought, or any necessity or reason for their existence, except, perhaps, the ambition of the author. Every medical library, public or private, is groaning under its load of useless repetition, in systems of many volumes. There is a prevailing tendency amounting almost to mania in young men, to rush into print, and I feel that I can talk freely to them, being one myself. This is especially true in our great cities, for, how often do we see a young graduate, after staying in a hospital a year, and then in a laboratory a short time, suddenly unfurl his banner to the world as an authority, and while his English is excellent and his diction perfect, I doubt whether his experience warrants him in assuming the grave responsibilities of an authority on any subject where human life is at stake. I would not be understood to mean that the young men should remain in the rear and withhold any information they may have acquired by arduous labor, nor would I check their worthy ambition or pluck one laurel from their brow, but I do claim their medium should be the medical journals, which are, after all, the greatest educators of the busy physician. When such a man as Osler, a walking encyclopedia of medicine, regrets the day when he sold his brain to the medical publisher, it is time for younger men to pause and consider before they assume the rôle of authorship.

In conclusion I desire to say that a conscientious sense of duty alone induces me to call attention to the threatening storms which, if not checked while they are yet young and harmless, will eventually undermine the very foundations of true and honorable medicine. Mr. President, when all of these injurious things have been forever eliminated, and the regal robes of ethical medicine rendered aseptic from their present pollution, then we can exclaim with pride, "Sound the loud timbrel o'er Egypt's dark sea, Jehovah hath triumphed; His people are free."

SOME OF THE PHYSIOLOGICAL METHODS AND MEANS EMPLOYED BY THE ANIMAL ORGANISM IN ITS CONTINUAL STRUGGLE AGAINST BACTERIA FOR MAINTENANCE OF LIFE AND HEALTH.[1]

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THE author states at the outset that bacteriological literature contains a number of important facts which can be brought together and organized into an answer to the problem presented by the title of this paper. But it must be acknowledged that those facts were not discovered to find the cause of health. Bacteriology was born and raised chiefly as a part of pathology, and it did not concern itself so much with the normal course of life, as with its exceptions and abnormities. It was attracted by the problems of immunity and of recovery from infectious diseases.

There is still another feature in bacteriology which, to my mind, is inimical to the proper treatment of the problems of the defenses employed in normal life and which deserves some special discussion. It is the tendency, prevailing in bacteriology, to anticipate only a single factor which does the fighting in the battles of the body. Thus, we see one large group of investigators believing exclusively in the theory of phagocytosis, while another group swears only by the alexines. It is interesting to note that the line of division between the two groups is the same here as it is in pathology. The old school of pathologists believed that the cause of all diseases was located in the body-fluids, or in the blood—humoral pathology; the new school looks to the cells of the body as the seat of the evil—cellular pathology. The enemy resides either in the blood or in the cells, and so is the defense to be found either in the blood or in the cells. The schools differ as to the character of the leaders, whether admirals or generals, but they agree that the attack, as well as the defense, can be carried on only by a single leader.

When some sixty years ago the young school of physiologists of those days had demolished the idol of vital force, they rendered a great service to the science of biology by opening up all mysterious paths and phenomena of animal life to the searching light of the modern investigator, who learned to work with methods employed in the exact sciences. This service was and is generally appreciated; it consisted in the abolishment of the idea of vitalism. But the scientific revolutionists of those days have rendered to physiology another important service which, as far as I can see, has never yet been clearly pointed out. When they overthrew the irresponsible reign of the vital force, they did not attempt to replace it by another single-headed force—they simply converted the monarchy into a republic! Within the last half century the domain of physiology was toiled by an army of painstaking workers, throwing their search-light into every corner and crevice of animal life; but until very recently no attempt was made to single out a tissue, a system, or a process as the leading spirit of the living mechanism. Neither the nervous nor the circulatory systems, neither the anabolic nor the catabolic processes, and neither the blood nor the cells were singled out to be entrusted with the leadership of the whole. The constant reappearance of the same morphological unit—the cell—in the histological studies of the tissues of the body, naturally did not impress the minds of the physiologists, whose object of study was chiefly the function, and not the form. But even the frequent reappearance in many body-tissues of one and the same functional phenomenon—the irritability—did not mislead the student of physiology to proclaim this characteristic feature of living tissue as the *primum mobile* of the life-machinery. The shape and quality of the bricks used in the erection of a building do not decide its nature and destination, whether it be a mansion, a monument, a factory, etc. Moreover, the animal body consists chiefly of a great number of harmoniously working mechanisms, in each of which all tissues, systems, etc., are participating in its complex construction, and it is still a great and open question, whether any tissue takes part in the work of the body directly, without the intervention of a mechanism. But here again no exclusive leadership is entrusted to any special mechanism. To be sure, the propeller of the circulation is an important mechanism, a serious impairment of its working is sure death. But neither should the modest gateman at the entrance of the larynx be underrated; failure of the prompt closure of the glottis during each deglutition, would cause suffocation and death. The same applies to the standing of the participating tissues within each mechanism. The respiration, for instance, is affected not only by such important changes as occur in the metabolic processes, in the composition of the blood, in the nerve-cells within the respiratory center, etc., but also by changes in tissues of apparently such low vitality as are the elastic fibers of the lungs or the cartilages of the ribs.

In short, the unity of life is an ideal commonwealth, without a king or an almighty president. It is governed by all its citizens, working in committees, each one of which performs its task, high or low, with promptness and exactness, to accomplish in the first place its own end, but also with an avowed purpose to be in steady communication and co-operation with all the other committees; thus securing a harmonious, concerted action of one and all—for the welfare of life and health.

It is not here the place to speak at still greater length of the correctness of such a view within the domain of physiology. Nor shall I discuss here the applicability of a similar view to pathology. But I shall insist upon that the prevailing view in bacteriology with regard to the defense

[1] Author's abstract of paper read by title at the General Session of the Congress of American Physicians and Surgeons, May 1, 1900.

of the body against bacteria, *viz.*, that it is entrusted chiefly to a single element (be it the blood with its alexines, or be they the leucocytes, or the other body-cells), is neither correct nor advantageous. It is incorrect, because it is improbable that the republic government of the body, in which all parts are working harmoniously in all the other struggles of life, should delegate the steady struggle against bacteria to a single tissue. On the contrary, it seems rather highly probable that, like in all defenses, every tissue, system, and mechanism is called into service to combat the invasion at every step and by any attainable means. And it is disadvantageous, because experimentors who concern themselves with finding exclusive principles which are capable of destroying bacteria and their products in experimental diseases to a value of 80 or even 100 per cent., have only contempt for factors in the struggle which could contribute to the successful end only 4 or 5 per cent., which is often below the possible experimental error. While in the natural struggle of life the army of the invading bacteria are met by a small army of trained defenders, each one of which, may be, contributes to the success indeed only one per cent. or even only a small fraction thereof, the sum total of all of which represents nevertheless a hundred per cent.!

Backed by the preceding considerations, I venture to offer the following two suggestions of a general character:

I maintain in the first place that in the struggle against bacteria the defense of the body is not carried on, exclusively or chiefly, by a single element. It is neither the body-fluids, nor the leucocytes, nor the other body-cells alone which can claim the exclusive merit of maintaining the health of the body, but each and everyone of them has its variable share in attaining the desired end.

I maintain furthermore that in health, at least, the actual defense is carried on not by a single tissue, or a single function, but by concerted action of several tissues and functions, by the working of a mechanism. By mechanism I mean the co-operation of several independent factors in attaining a common purpose. Let us take as an illustration the protection of the conjunctival sac. It is nearly in direct contact with the air, and we might expect to find there an extensive bacterial settlement. Nevertheless Lachowitz and Bojwid found that in 69 per cent. of cases the conjunctiva was perfectly sterile. The factors which accomplish this sterility, or at least the comparative sterility of bacteria, are: The reflex which causes the closure of the lids at the approach of dust (the carrier of bacteria); the blinking which occurs regularly a few times in a minute and which, in conjunction with the lacrimal moisture, throws out again mechanically the already-landed bacteria; and, finally, the bactericidal effect of the tears destroys the balance of the invaders. Or let us take the respiratory organ from the larynx down to the respiratory tissue, including the corresponding lymph-glands. I would like to call attention to the unique position of the respiratory path, which perhaps has never yet been sufficiently pointed out. Through this path the outside world stands in an intimate relation with the interior of the body, inasmuch as the air-column is separated from the lymphatics and capillaries of the lungs merely by a single layer of the very thin epithelium of the air-cells. Even the serous cavities are separated from the lymph-spaces by thicker layers. This arrangement is, of course, indispensable for the proper exchange of the blood-gases with the air. But what prevents the bacterial invasion of the interior of the body by this open and direct way? Moreover, most of the writers agree that trachea, bronchi and lung tissue of healthy animals are nearly sterile. In a number of rabbits under morphine anesthesia I found all these parts to be sterile. If one vagus, or a laryngeal branch, was cut, then the upper part of the trachea contained bacteria, but not the lungs. When both vagi were cut, then of course the lungs, too, were invaded. Jundell reported recently that by means of a special device he was able to test the human trachea, and found that in the majority of healthy cases the region below the glottis proved to be sterile. What protects this path? In my opinion the result is accomplished by the co-operation of the following factors:

The tortuose part of the respiratory path lying above the glottis removes, perhaps, the greatest part of the bacteria contained in the inspired air-column and the remaining number is, under normal conditions, just small enough to be disposed of by the factors present below the larynx. Bacteria which pass the glottis are either carried back outside of the glottis from the trachea and the bronchi by the steady movements of the cilia of the epithelium; or, if the germs are carried in the center of the air-column down to the air-cells, they quickly penetrate the thin epithelial layer and are immediately within the reach of the lymphatic glands which take good care of them. The ready penetrability of the air-cells I consider a favorable factor, because, if the bacteria were retained for some time in the alveoli, they might settle there, proliferate, form a necrotic focus, and overflow the body with toxins, or even with bacteria, entering directly into the capillaries. As to the activity of the lymph-glands, the observations of Loomis, Pizzini and others are very instructive. The lymph-glands of more than forty per cent. of non-tuberculous lungs contained living bacilli. The reduction of the invading bacteria to a small number is essential for the success. In inhalation experiments with large numbers of bacteria thrown into the respiratory path, the normal mechanism fails.

In this illustration we see how an entrance which is most conveniently open to the invading bacteria is guarded successfully, not by a single tissue or function, but by a combination of more or less valuable factors—by a mechanism.

In connection with the respiratory path, I would like to recall here the interesting fact that

both canals which lead furthest to the innermost of the body, that is, the respiratory and the female genital canal (which latter terminates in the peritoneum) have ciliated epithelium, the movement of the cilia being outward and are, as far as the epithelium extends, entirely or nearly sterile. The tendency of our times is to underrate the value of mechanical factors. What energy those movements of the cilia represent has been shown by our distinguished president some twenty-five years ago. According to his calculations the work accomplished by one cilia within one minute would be sufficient to lift its own weight 4000 meters.

Turning to the plan of defense throughout the entire body, I have to state at the outset that in its outlines it is much the same as seen in the two mechanisms already cited. Thus the aim is to greatly reduce the number of bacteria by mechanical methods and then to destroy the remnant by some biological means. The mechanical methods are: Barricading the entrance, throwing out again the landed bacteria, or carrying them to the place of destruction. The following is a short sketch of the physiological defense-work, carried on throughout the entire body.

The bacteria are decimated at their entrance into, and their advance within, the body cavities. They encounter in the mucous membrane the first and in the net of lymph-glands the second barrier against their invasion of the interior of the body; and, when finally there, a part of them is thrown out again with the bile, the urine, and the sweat.

The number of bacteria remaining within the interior of the body is in normal conditions comparatively small, and these are readily destroyed by the factors entrusted with this task. What are these factors? We know that when saprophytic or moderately virulent bacteria are introduced intravenously into a healthy animal body, they disappear not only from the blood, but also from the entire interior of the body within a comparatively short time. Bacteria grow well on proteid-media, and develop rapidly in dead bodies. They settle and develop well even in living bodies, if they find there necrotic foci, as was shown among others by the experiments of Cheesman and myself. But diminish the vitality somewhat, as by chronic heart and kidney-diseases, and the invasion and settlement of micro-organisms in the body is encouraged, as was well demonstrated by Flexner in his paper on terminal infections. It is thus an established fact that the healthy living body destroys the invading bacteria. By what means? Metschnikoff and his followers believe that it is done chiefly by the leucocytes. We cannot discuss here the immense material brought forward for and against this theory. The impartial opinions seem to have settled upon the conclusion that the leucocytes undoubtedly often assist in the work of the destruction of the bacteria. They are, however, neither the exclusive, nor even the chief actors in this work. Buchner, Denys, and many followers, believe that the destruction of the bacteria within the body is accomplished by the bactericidal elements which are surely present in the blood outside of the body. The proof, however, is still lacking that such exist and are effective in the circulating blood within the animal. It is, however, gratifying to observe, how the differences between these two leading theories have gradually dwindled. The present status is as follows. Metschnikoff now admits that the body-fluids also contain some bactericides, but he maintains that they are derived from broken-down leucocytes; and Buchner now takes the ground that the alexines are derived from the living leucocytes which secret them. The mechanism phagocytosis consists in the positive chemiotaxis which causes the attraction; in the wandering of the cell to the micro-organism; in the embracing or catching of it, dead or alive, and in the chemical digestion of the germ within the cell. In Buchner's theory the cells are attracted by and wander to the bacteria, in the neighborhood of which they secret the deadly alexines.

(The author here gives a brief account of the discoveries made in the studies of the phenomenon of immunity; for instance, the several kinds of antitoxins, the antimicrobic sera, the lysius and the agglutinins, the instructive and widely-accepted theories of Ehrlich, the bacteriolytic enzymes of Emmerich and Loew, etc.)

The facts and theories briefly referred to are very far reaching and of primary importance. But for the present they cannot yet be utilized satisfactorily for the explanation of the rapid disappearance of numerous bacteria from the interior of the normal animal body.

I might be permitted to state here briefly the suggestion of two new factors, which, in my estimation, are capable of assisting in the work of the destruction of bacteria within the body.

One of these factors is the process of plasmolysis. When cells having membranes are placed in a salt solution, more concentrated than that to which they were accustomed by the osmotic interchange of salt and water, the latter leaves the cells and the protoplasm recedes from the membrane. The same is true also of bacteria. When the vacuolization takes place at the long sides of a bacillus, the vacuoles may meet at the middle of the long axis and the receding protoplasm appears divided in two parts, presenting sometimes the appearance of a diplococcus surrounded by a halo. If the solution is soon diluted again, the cells may regain their normal appearance, although sometimes the membrane bursts when the change is too sudden. When the injurious concentration continues, the changed form might become permanent, or at least will yield very slowly to a later dilution. Even in the permanent change the cell will continue sometimes to live, but offers then but little resistance to any accidental injury. Now even in the same class of animals the body-fluids of different species, or even subspecies, have a different osmotic pressure and what is isotonic for this species might be hypo-

tonic for one and hypertonic for another species. As there is no proof, nor even any good reason, for the assumption that the blood and the other fluids of the animal body are isotonic with the protoplasm of the bacterial cell, may we not assume that the fluids are hypertonic, and therefore plasmolytic for bacteria which get into them? And as the organisms remain in the hypertonic animal fluid for some time, the state of plasmolysis becomes permanent and the bacteria succumb easily, either to the effects of the plasmolysis itself or to some insignificant accidental injury?

Baumgarten, who for years opposed the theory that the bactericidal properties which are manifestly present in the extravascular blood exist and are active in the circulating blood, recently came out quite strongly for the assumption that the destruction of bacteria in the extravascular blood is chiefly due to plasmolysis. It is surprising that he does not even discuss the question whether also the blood within the living body might be plasmolytic for the invading bacteria. Here he repeats his often-pronounced opinion that the natural immunity rests chiefly on the absence of certain nutritive elements within the living organism which makes the latter an unsuitable medium for certain bacteria. I am not aware that the suggestion I make was ever brought forward before. But I am going to enlist in favor of my hypothesis certain important observations made by a distinguished member of our Congress. I am doing it with great reluctance, as I am afraid that my interpretation of the facts will not receive the sanction of their discoverer. In a series of communications Professor Adami has reported a number of extremely interesting facts concerning the presence of diplococcoid forms of bacteria in the liver, kidneys, etc., of which I shall mention here only the following: When a culture of the colon bacillus is introduced into the ear-vein of a rabbit, there appear after some short time in the liver and the kidney bacterial bodies resembling diplococci which are surrounded by a halo. Such bodies are also found in the liver of normal adult rabbits, but not in the livers of very young ones. Similar bacterial bodies develop also in body-fluids when inoculated outside of the body with the colon bacillus. That these bodies are actually remnants of the colon bacilli is proven by the fact that some of them gradually assume normal forms when reinoculated in suitable media. Now, double dots surrounded by a halo is just one of the forms into which bacteria are transfigured by plasmolysis. I therefore risk the interpretation that Professor Adami has practically discovered the degeneration of the invading bacteria by plasmolysis, for which I put forward the claim that it is one of the regular factors in the defense of the body against bacteria.

The second new factor, which I believe has a regular place in the lines of the defense, is the vibrating effect of the heart-impulse. By the analysis of many data existing in the literature regarding the significance of vibration to cell-life, and on the basis of results of my own experiments, I arrived at the conclusion that the relations of vibration to life are similar to those of temperature. A certain minimum is indispensable to all forms of life, a certain maximum cannot be overstepped by any one, and there is a certain optimum for every one. But every species of cells has its individual minimum, optimum and maximum. I found that a certain degree of vibration which was an optimum for one kind of bacteria was destructive for another kind. In recent experiments, a repetition of experiments made by Professor Welch and myself some years ago, I could establish the validity of this law also for the red blood-cells. In a previous paper I made the remark that the vibrations emanating from the impulse of the heart form probably the optimum for the living cells of each individual animal. Now, recent experiments have shown me that the vibrations communicated to the body by the heart are deleterious to extravascular, dead blood. I have placed small rubber-bags or bottles with blood in the peritoneal cavity, or in the subcutaneous tissue of animals, and found that the red cells of this blood were destroyed much earlier than those of the blood which was kept in thermostat at a temperature equal to that of the inside of the animal. The suggestion which I wish to make is that the vibrations emanating from the heart-beat of the animal is more than a maximum for all the bacteria invading the interior of the animal body, especially in the injured state into which they are placed by the other influences of the body, for instance by plasmolysis.

From the observations of Adami and other investigators, we might consider it as an established fact that the interior of the adult body is regularly invaded by a number of bacteria, which, however, do not settle there, but are sooner or later destroyed. What effect does this constant invasion and destruction have on the body? If we introduce bacteria by some artificial method into the interior of an animal, we immunize this animal. Why should it be different when the bacteria invade the body by natural ways? I believe, therefore, that the regular, moderate invasion of bacteria into the interior of the body is far from being an infection, an evil; it is a means of immunization, at least against the evils of an invasion of the same kind of bacteria in numbers larger than usual. The immunization is, of course, not strong enough to show the presence of antimicrobic serum within the blood; neither is it equal to meet the emergencies of extraordinary invasions. But we do not know whether it is not due partly to this perpetual immunization that disease is such a rare exception.

Latent infection, therefore, is not a foe to normal life, to health, but is rather a confederate in the defense of it.

Appointment at Charity Hospital.—Dr. E. M. Foote has been appointed visiting surgeon to fill the vacancy caused by the resignation of Dr. J. B. Walker.

SOME POINTS IN THE MANAGEMENT OF OBSTETRIC CASES IN PRIVATE PRACTICE.[1]

BY JOSEPH BROWN COOKE, M.D.,
OF NEW YORK.

IT is not my intention to go over the entire ground of the management of obstetric cases in private practice, but merely to mention, in a more or less disconnected way, two or three points in technic, the importance of which has not, so far as I know, been sufficiently emphasized.

Few physicians in general practice make any effort to systematically record and preserve for reference histories of all their cases, and the adoption of such a system, especially in obstetric practice, cannot be too strongly urged.

A pregnant woman may be well compared to a ship at sea. The chances are that she will arrive in port without accident or mishap, but, unless a most vigilant and unremitting watch is maintained from the beginning to the end of her voyage, disaster may overtake her at any moment. In like manner serious and unlooked for complications may arise during the course of pregnancy unless every precaution against their onset is observed.

To guard against this danger and to avoid the possibility of overlooking the presence of any unfavorable symptom, however slight, an accurate history of every case must be kept from the time when the patient is first seen until the end of the puerperium. In addition to the benefits that accrue to the patient by the adoption of such a system, the physician is placed in a position to profit by his own experience in the fullest sense of the phrase and every case will serve as a stimulus to better work and clearer judgment. History-books are only suitable for hospital use and are comparatively valueless to the practising physician. He comes in contact with his patients under a great variety of circumstances, often when he least expects them, and his records, to be of value, must be made on the spot and not written down from memory after a lapse of many hours and often of several days. Consequently he must provide himself with some means of recording every important feature of his cases at the moment when the information is imparted to him, and this indication is filled in an ideal manner by the use of history-cards which can be carried in the pocket as long as the patient is under frequent observation and afterward put on file for reference.

My own cards, for assistance in the preparation of which I am greatly indebted to Dr. J. R. Tillinghast, do not differ essentially from others that I have seen except that they are considerably smaller and can be carried in the pocket without folding or bending.

Three cards are used for each patient; one for the pregnancy, one for the labor and one for the puerperium. The pregnancy-card has space on its face for the patient's name, address, age, nationality, date of marriage and date of expected confinement. Below this are recorded her family history, personal history, especially as regards rickets, scarlatina, diphtheria, nephritis and syphilis, the physical examination of her heart, lungs, liver and spleen, and her menstrual history, with the age at which menstruation began, the interval between the periods, the duration and amount of the flow, and the presence or absence of pain before, during or after the flow. If the woman has been pregnant before a brief history of her previous pregnancies, previous labors and previous childbeds, is recorded in the space provided for it, after which the date, duration and amount of her last menstruation are noted.

Her present pregnancy is next investigated and space is provided for notes on vomiting, headache, edema, arterial tension, albuminuria, and any treatment instituted. If quickening has occurred the date on which active fetal movements were first noticed is recorded. The back of the pregnancy-card is devoted to the examination of the patient, which is made not later than the thirty-second week of gestation and usually at a somewhat earlier period. This examination covers the condition of the breasts, abdomen, uterus, pelvis, fetus, vagina, cervix and perineum, and nearly half the card is left blank for any other matters that may suggest themselves in individual cases.

The labor-card bears on its face a minute record of a normal labor, together with notes on the placenta, membranes, cord, hemorrhage, perineum, cervix, infant, douches if any, and the maternal condition for one hour postpartum. On its back are spaces for recording a forceps operation, a version and a breech delivery, with half the card blank for remarks. The puerperium-card covers two weeks and has space for daily notes on the condition of the mother's breasts, fundus, lochia and bladder, and the infant's eyes, cord, bowels, urine and weight. Below this is recorded the examination of the mother's breasts, uterus, cervix, perineum, adnexa and general condition at the end of the puerperium and of the infant's eyes, navel, buttocks, gentitals, nursing and general condition. On the back of the puerperium-card is a two-weeks' temperature chart ranging from 97° to 105° F., and space for daily records of the woman's pulse, respiration, urine and stools.

At the termination of the case the three cards belonging to it are placed in the filing cabinet for future reference. A leather pocket-case is supplied with the cards, in which twelve or fifteen may be carried comfortably. Two or three blank pregnancy-cards should be kept with the others so that the history of a new patient may be begun when she is first seen, whether it be at the physician's office or in her own home. Beyond the matters suggested by the headings on the history-cards, there is little to be said as to the management of pregnancy except on the subject of urinary examinations. The urine should be examined within a week of the patient's first visit and

[1] Read before the Section on Obstetrics and Gynecology of the New York Academy of Medicine, March 22, 1900.

then monthly until the end of the seventh month of gestation, after which analyses should be made weekly, or oftener if necessary, until labor has taken place.

For a long time I found the greatest difficulty in securing specimens for examination with any degree of regularity. Often the patients would forget or neglect to send their specimens at all, and when they were sent they would arrive at all hours of the day and in every conceivable kind of container, from a four-dram vial to a twelve-ounce cod-liver oil bottle. In many instances there would be no name or date on the package and no possible way of ascertaining from whom it came. Finally, in the belief that lack of system on my own part was largely responsible for the existence of the same fault among my patients, the following plan was adopted, with most satisfactory results. A number of wide-mouthed, glass stoppered, four-ounce bottles were obtained and labeled as follows: IMPORTANT.—Take specimen from *mixed*, evening and morning urine, and deliver before noon on WEDNESDAY. Amount in 24 hours . . ; name . . . . ; address . . . . ; date . . . . When a patient is first seen she is given an empty bottle and told to bring or send it to the office on the following Wednesday before twelve o'clock, filled and with the blank spaces on the label properly filled out, and to send a specimen in the same way on the first Wednesday of every month until she is directed to do otherwise, which, of course, will be at the end of the seventh month when weekly examinations are begun. When the specimen is left at the office the bearer is given in exchange an empty bottle, freshly labeled, for the following month or week as the case may be.

A list is kept of all specimens due to arrive on a given Wednesday so that delinquents may be notified at once by mail or messenger. The plan has been surprisingly successful, for it insures a clean bottle, a sufficient amount of urine for examination and more than anything else, it impresses on the patient's mind the importance of sending the specimens regularly and promptly.

It seldom happens that all the bottles are not in the office by ten o'clock on Wednesday morning and by having them all together in this way the work of examining them is, of course, lessened to a marked degree. As the analyses are all made in the physician's office and at one time it is more convenient to record them in a book and to make no note of the result on the history card unless abnormalities are found.

Another point to which I wish to refer has to do with the maintenance of absolute asepsis from the beginning to the end of labor. Aseptic solutions are in constant demand in the lying-in-room and the most painstaking care in the disinfection of the hands and instruments will amount to nothing, if, for any reason, the parturient canal or any part of it require douching or cleansing and an ample supply of sterile water is not at hand. Boiling water can usually be had in sufficient quantity, but it frequently happens that there is not time for it to cool down to a suitable temperature and cold water from the faucet is, of necessity, added to it. To obviate this difficulty I have provided myself with a number of wooden boxes with stout leather handles each of which contains four half-gallon bottles of distilled water, one pint of boric-acid solution for the infant's eyes and mouth immediately after birth; one pint of standard sterile salt solution for infusion; three agate basins or trays, one for sponges, one for towels and one for receiving the placenta with the gush of blood that follows it, and a two-weeks' temperature chart for the nurse's use. One of these boxes is sent to each patient three weeks before labor is expected and the slight trouble expended in making it ready is more than compensated for by having it at hand when the woman is delivered. There is never any doubt as to the absolute sterility of the solutions, and the trays are of the greatest convenience in that they are of a size and shape exactly suited to the requirements of the case.

The subject of obstetrical bags has been pretty thoroughly exhausted and I have only one point to raise in this connection. Every labor is, in a sense, an emergency case for it is impossible to predict the exact hour or even day when the summons will come. Consequently, it is extremely difficult to be in constant readiness, both by day and night, to respond at once to such calls. Moreover, a second case may, and by a curious coincidence often does, follow so closely upon the first that the physician has to go directly from one patient to another with the least possible delay. For this reason any form of bag which necessitates preliminary sterilization of instruments at the obstetrician's house is apt to be decidedly unsatisfactory. If a second case calls for immediate attendance, or if an instrument or suture is in any way rendered septic, the means of rapid and effective resterilization should always be available.

On this acount I have discarded every form of so-called aseptic bag and carry nothing sterile to my cases except operating gown in a muslin-case, gauze, cotton, cord dressings and sutures of silk and catgut. Instruments and silkwormgut, if it is needed, are boiled in a long narrow copper tray of such size and shape that it will hold any obstetrical forceps together with cord, scissors, catheter, douche-tube and any other instruments that may be required in special instances, covered with the minimum amount of water, to secure rapid boiling. If when needed they are too hot for use, they may be cooled by the addition of some of the distilled water to which reference has already been made. By this plan, the physician is absolutely independent of his outfit and, if necessary, can go from one patient directly to another and do equally good work in both cases.

269 West 138th Street.

Dr. Jacobi Honored.—At the recent commencement of Columbia University Dr. Abraham Jacobi was honored with the degree of LL.D.

MEDICAL PROGRESS.

Pneumothorax and Whooping-Cough.—F. Nilly (*Med. Chronicle*, May, 1900) reports the case of a child seriously ill with whooping-cough and diphtheria in whom the pulse-rate averaged about 145 and the respirations about 70 or 80 for several days with consequent marked prostration. The only physical signs obtainable were an uncertain hyperresonance at the left base, with distant breath-sounds approaching the bronchial type just within the angle of the scapula. An exploratory puncture demonstrated the presence of air and on the next day a considerable quantity of gas was evacuated, but no pus was found. The differences in the pharyngeal signs at the two bases had disappeared next day and the child made a steady subsequent recovery.

Treatment of Abortion.—A large percentage of the cases of chronic pelvic inflammation can be traced to a neglected or improperly treated abortion, writes J. S. Baer (*Obstetrics*, May, 1900). In threatened abortion, if seen early, give morphine and keep patient in the recumbent posture with hips raised until all danger is past. Then give fluid extract of viburnum prunifolium and forbid excitement or excessive physical effort during the period of gestation. Do not use a vaginal tampon. If abortion is inevitable, with profuse hemorrhage, dilated os, and the membranes or fetus presenting, and the patient having nervous chills or fever, give a dose of valerian and tampon the vagina. This latter stimulates uterine contraction and favors separation of placenta and membranes, and expulsion of fetus by retained blood. Remove tampon in twenty-four hours, and, if necessary, tampon again for the same length of time. If uterus is not emptied, operative measures are indicated. In complete abortion with expulsion of the fetus, but retention of placenta or membranes, try the tampon, if at about the fourth month and there is no fever or odor. However, if fever or fetor, the uterus must be emptied at once, and best by the curette under anesthesia. The forceps are introduced, the blades separated, and one blade used as a curette; the uterus is then irrigated, and it and vagina packed lightly with iodoform gauze. Then give ergot, continue antiseptic douches, and keep patient in bed as long as if labor were full term.

Hydatid Cysts of the Liver.—These may be unilocular or multilocular, says F. P. Henry (*Proceedings of the Patho. Soc. of Phila.*, May, 1900), the latter, the rarer variety, being hard and firm, and composed of a fibrous tumor enclosing space with clear gelatinous contents, in which the cysts are found. The infection is rare in this country, but is common enough in Iceland and Australia, where careless habits of cleanliness prevail, and the inhabitants live in close contact with their dogs. The dogs become infected from eating the flesh of sheep and oxen. The tænia develop in the dog's intestine, are about a quarter of an inch long, and are usually transmitted to human beings from the dog's tongue. The microscopic examination of the cyst-contents shows granular detritus, cholesterin crystals, and the characteristic hooklets.

Podalic Version.—The dangers of this operation to the mother, says D. S. Hanson (*Cleveland Medical Gazette*, June, 1900), are rupture of the uterus, sepsis, shock, hemorrhage, laceration. Rupture of the uterus should not occur if any liquor amnii remains, and sepsis may be avoided by strict cleanliness. The dangers to the child are interference with circulation due to pressure on cord, embarrassment of respiration by attempts of child to breathe before its head is delivered, so drawing liquid into its lungs, injury to nerves by traction on neck, and fracture of humerus. Yet in spite of these dangers, version is usually to be preferred to a forceps-delivery, as being easier, less dangerous, and more effective.

Slight Fever During Puerperium.—Slight elevations of temperature during the puerperium occur oftener by half in primiparæ than in multiparæ, and are usually due, says K. Franz (*Centralbl. für Geburtshülfe und Gynäkologie*, translated for *Obstetrics*, May, 1900) to the retention of the products of saprophytic bacteria in the uterus. These bacteria are probably identical with the saprophytes of the vagina, and are often present in the normal uterus; they give no symptoms so long as there is free vent to their secretions. Internal examination tends to produce slight fever only by causing vaginal abrasions, and thus furthering the development of the normal vaginal bacteria. Long duration of labor, or of the expulsive stage, and premature rupture of the membranes have little influence, but diminishing the duration of the third stage tends to produce slight fever.

Actinomycosis of the Lower Jaw.—This condition was acquired by a tooth-brush maker, according to Guinard (*Bull. et Mém. de la Soc. de Chir. de Paris*, T. 26, No. 6), in the following manner: Hogs' bristles were first washed, then taken into the mouth in order to stick them into the handle-holes in bundles. The suggestion is hence wise that these brushes be boiled before using them for the first time.

Cecal Actinomycosis.—In two of three cases, reported by Hofmeister (*Beitr. z. klin. Chir.*, Band 26, Heft 2) microscopical examinations made the diagnosis probable, in the third absolute. The remarkable sign in each was a sharply-defined local movable mass, which the author regards as strongly indicative of the disease. In one a section of the colon was removed and an artificial anus made, which soon healed. In the others a resection of the cecum, appendix and adjoining small and large intestine cured.

Value of Bromopin.—While the action of the bromides of the alkali metals in general is satisfactory, the administration of large doses is often

followed by bromism, so that J. W. Frieser (*Klin. therap. Woch.*, May 27, 1900) finds it advisable to draw the attention of physicians to a new compound, bromopin, made by the action of bromine on oil of sesame and containing 10 per cent. of the former. Bromism has never followed its use in his hands whether a single large or repeated small doses were given. It appears that the drug passes the stomach unchanged, to be absorbed in the small intestine and to be deposited in the tissues like other fats, the bromine only gradually being liberated. Its oily taste is sometimes objectional, in which case it may be given subcutaneously. In appearance and odor it hardly differs from the pure oil of sesame.

Investigation of Sulphocyanates.—G. Treupler and A. Edinger (*Münch. med. Woch.*, May 20 and 29, 1900) say that the presence of sulphocyanates in saliva, urine and milk is not accidental but must be looked upon as a result of normal metabolism, following the decomposition of adenin, a substance allied to uric acid. The authors have found their properties singularly nil, despite the fact that they have been accredited with strong antiseptic powers. They have injected rabbits subcutaneously with the potassium salt without interfering in the least with the animals' well-being. Bacteria were hardly restrained in their growth. Tuberculous guinea-pigs which were subjected to sulpho-cyanate injections showed no improvement. Rabbits, who had received injections some time before they were rendered tuberculous, reacted somewhat more favorably since no tuberculous deposits developed in the chest organs and in the diseased areas it appeared as if a slow healing process went on. But a cure never took place and some animals succumbed even more rapidly with the injections.

When to Operate in Appendicitis.—J. B. Murphy (*Internat. Jour. Surg.*, June, 1900) says that if all acute infective cases of appendicitis were operated upon inside of twenty-four hours the maximum mortality would be within 2 per cent. No man can tell within the first twenty-four or forty-eight hours what the further progress of the case will be; the danger to life and the period of convalescence increase with the length of time between the onset and the operation; therefore, the most rational thing to do is to operate within the first twenty-four hours.

Juvenile Neurasthenia.—C. L. De Merritt (*N. Y. Med. Jour.*, June 16, 1900) urges the importance of recognizing symptoms of neurasthenia and hysteria appearing in children, for he believes that a majority of such cases among adults have their insidious beginning in childhood. Heredity is both a direct and indirect factor. By the latter is meant that neurotic parents scold and nag their children incessantly, yet have not the will-power to enforce real discipline, thus destroying the mental equilibrium of their offspring. Overstudy is not the chief factor in causing school-children to "break down." German children study harder than ours, but their home-life is more sedate and precocity is suppressed, not encouraged, and collapse is much less often seen. Lack of out-door exercise is a prolific cause of neurotic troubles. The frequent symptoms observed are nocturnal terrors, marked insomnia, great irritability, a tendency to lie and impose on people for no apparent reason, masturbation, fits of crying, habitual feigning of illness and undue love of sympathy. With reference to treatment the parents must first be scrutinized. If they are neurotic or hypochrondriacal it must be explained how such defects react upon the child and thus furnish the greatest incentive to overcome their own deficiencies and a double cure may result. Drugs are of secondary importance. Bromides and hyoscyamus may be temporarily used. Warm sponge bathing at bed-time is of use. In mild cases the child will oftentimes do much better in school, for the withdrawal of the child from companionship and the relaxation of mental discipline may have a most unfortunate effect and produce, instead of a cure, a young hypochrondriac.

Tetanus Treated by Antitoxin.—J. F. Clarke (*N. Y. Med. Jour.*, June 16, 1900) reports a case of tetanus developing after a serious crushing accident to the hand, although prompt antiseptic treatment was given. Seven days later the first symptoms of stiffness of the jaws were noticed, but, owing to difficulty in getting the serum, it was not used until the next day. In about twelve hours there was apparent marked improvement, the jaws being so much relaxed that the tongue could be protruded about one inch. After each injection the pulse became slower and stronger. A few hours later, however, the patient started suddenly from sleep calling for air, the pulse became imperceptible and he fell back in syncope. Although temporarily revived, he soon after died suddenly, the pulse failing before respiration.

Typhoid Infection of Uterus.—A. J. Lartigau (*N. Y. Med. Jour.*, June 16, 1900) has reviewed the cases of Kühnau, Dobbin and Blumer, who demonstrated the presence of the bacillus of typhoid fever in cultures taken from the uterus of patients in the puerperal state. He further reports two cases in detail which he examined thoroughly postmortem and found the typhoid bacilli in the uteri of these cases. One followed the course and presented the lesions of atypical typhoid, but the other was one of that remarkable class of typhoid cases, whose chief interest becomes centered in the absence of any anatomical lesions of the intestine. Both these patients were non-puerperal women and the uteri were practically normal, save for a little congestion and thickening of the mucous membrane, especially of the fundus. The bacilli were found in the urine of the second case, but the author believes that the infection of the uterus in both cases took place from within.

Thoracic Sympathetic Disease.—J. Fraenkel

(*Med. Rec.*, June 16, 1900) reports an interesting and rare case. The patient was under close observation by the author for nearly one year, and a detailed record of the symptoms from time to time is given. The history seems to be that of a true hysterical case with attacks of pain in the left arm, leg and left side of the face and also at times severe pain in the cardiac region. Repeated physical examinations failed to disclose any abnormality or lesion and the diagnosis of hysteria was made. The patient finally entered a state of acute collapse, became pale, covered with perspiration, the features were pinched, the head was drawn to the left side, and there was an enormous distention of the abdomen. The pulse was about 120 and the temperature only slightly elevated. The patient died and the autopsy showed no important lesion except that the four upper thoracic ganglia of the left side and the intermediary trunks were buried in a mass of purulent material beneath the parietal pleura. The right inferior cervical ganglion was also surrounded by purulent matter. A thorough examination of the cord to determine the source of the pus was not allowed. What relation this anatomical finding had to the clinical picture of hysteria, it is impossible to say. The nerve-cells of the ganglion were very little affected, the pus-cells, together with the staphylococci, streptococci and bacilli which they contained, being massed outside the ganglion-sheath and infiltrated but slightly.

Plantar Reflex.—The so-called Babinski's phenomenon, which is a deliberate, marked extension of the great toe, with or without extension and separation of the other toes, when the sole of the foot is stroked, we have never found, say G. L. Walton and W. E. Paul (*Jour. Nervous and Mental Dis.*, June, 1900), in normal individuals. The plantar reflex with flexion of the toes is absent in ten per cent. of normal persons and in nearly twenty per cent. is unilateral. The infantile plantar reflex varies in the same child, at one time the toes being extended, at another time flexed. In lesions of the pyramidal tract, as in hemiplegia and diplegia, the normal flexion reflex is replaced by the Babinski phenomenon, but this latter was also present in one case each of general paralysis, meningitis, hydrocephalus, uremia, and alcoholism. However, in each of these cases there was some evidence pointing toward pyramidal tract disease, and the authors conclude that the presence of the Babinski phenomenon establishes a pyramidal tract lesion with almost absolute certainty. Its absence, however, does not exclude pyramidal disease, as it was not present in two of four cases of lateral sclerosis, one of two syringomyelia, and in a small proportion of the cases of ataxic paraplegia, myelitis, combined system disease, and trauma. The sign may be elicited in the unconscious state and is absent during convulsions. It is best brought out by a deliberate and even stroke from the heel toward the toes with a not too sharply-pointed orange stick. Babinski's phenomenon is often the earliest reflex to appear and it may persist when other reflexes, such as knee-jerk and ankle-clonus, are absent.

Massage in Recent Fractures.—W. H. Bennett (*Lancet*, June 2, 1900) believes early massage and passive motion to be most important elements in the rational treatment of fractures. Massage relieves the painful muscular spasm, expedites the absorption of extravasated materials, and prevents muscular atrophy; passive motion prevents the painful joint stiffness and adhesion of the soft parts to the site of fracture, and the two together keep the limb in such condition that, as soon as firm union occurs, it returns to full and comfortable function. Taking a fractured leg as example, one first reduces carefully the fracture and then applies a posterior splint with a proper oblique footpiece. After smooth muscle massage for ten minutes, lateral splints are attached. In massage one hand grasps the upper end of the bone while the other is applied to the lower end and is pushed slowly, steadily and gently upward. This is repeated for ten minutes, relieving pain and spasm, and often causing the patient to fall asleep. This massage is repeated every day. At the end of three days passive motion is begun, first with the toes. After the fifth day the ankle may be unbound and passive motion performed, while the other hand steadies the site of fracture. For the passive movement three to five minutes at a sitting are sufficient, but this must invariably be preceded by a quarter of an hour's smooth massage. At the end of two weeks the knee may be given passive motion. At the end of three weeks complete ordinary muscular massage may be carried out, and the leg allowed to be without splints in bed. The nearer the fracture is to a joint, the more important is the massage. The advantages of the treatment are: The ease with which the patient is relieved from muscular spasm and pain; the rapid absorption of effused blood; the prevention of stiffness; the preservation of the normal nutrition of the limb; the shortening of the time by half during which the patient is prevented from having full use of the limb.

Forced Abortion.—When abortion is indicated during the first three or four months of pregnancy, owing to incontrollable vomiting, heart-disease, etc., writes L. Merle (*L'Obstétrique*, May 15, 1900), the extemporaneous dilatation of the cervix, followed by the immediate extraction of the fetus and the clearing out of the uterine cavity is the process of choice. The patient is placed under chloroform, the cervix drawn down, and while the left hand presses on the fundus through the abdominal wall, metallic dilators, preferably those of Hegar, are inserted. When the dilatation is sufficient, which should be in twenty to thirty minutes for a multipara, and up to an hour for a primipara, introduce one finger, or, if possible, two fingers, rupture the bag of

waters, break up the fetus, and extract it. The curette need hardly ever be used. Then with a hard sponge soaked in bichloride or creosoted glycerin, swab out the uterus thoroughly, give an intra-uterine douche of bichloride, and tampon with salol or iodoform gauze. Performed thus, abortion becomes a sure, harmless, simple and easy operation.

Portable Orthopedic Apparatus.—A. Schanz (*Archiv f. klin. Chir.*, Band 61, Heft 1, p. 114). The knowledge of the underlying principles of mechanical orthopedic treatment is a necessity for the average physician. When unfavorable results of its application have appeared doubtless improperly-designed or fitted braces have been at the bottom of the trouble. There is one way only to avoid this, namely, due understanding of the kind, degree and end results of the essential pathological conditions and of the mechanics by which the apparatus applied may act in correction. Thus, the lesions in active progress and in fixed deformity constitute the great indications for management. Again after the establishment of the final deformity the disease may be renewed so that in the one patient both clinical pictures are exhibited. Scoliosis in modern pathology might be defined as a disproportion between the rigidity and elasticity of the spine when the process is active; but, when the deformity is complete, as a deforming of the spinal column and especially the trunk skeleton. In the former case we seek to restore the relation, in the latter to correct the deformity; both may be carried on together or be taken in series according to the case. All orthopedic appliances may be divided into three classes. In the first group all such traction devices which may be likened to garters. These take their upper support over the shoulders and their point of resistance from the lower part of the trunk or the clothing. The pull thus exerted always tends to increase the deformity by simply approximating the points of attachment. These instruments are the oldest type and are to be condemned. The principle underlying the second series of apparatus is that of lifting the weight of the shoulders and head, either or both, upward by braces and plates taking their point of advantage on the pelvis. In this class belong all types of appliance which do not seek also to correct deformity. Such as combine support and correction, belong to the third lot, most modern and approved. They all possess screws, bands, pads, braces and such contrivances for overcoming the displacements and for imposing their own upon the body outline. The purely supportive devices have a wide field and may be used in many cases, provided the patient be under massage, light gymnastics and breathing exercises, to prevent the atrophy of rest which might cause an accentuation of the disease by removing some of the support of the corset or jacket due to the falling of the body away from it. It is impossible in any portable device to secure the same amount of extension and correction as in the stationary. It is beyond the powers of the soft parts to stand the strain of overcorrection by any apparatus, which would, indeed, be the full indication to carry out. But by the careful application of the third kind of brace much can be done. They may be made to act in scoliosis by rotation or torsion and by side pressure, as well as by the usual extension and vertical support from below. Pads properly placed along the rib-angle will correct much lateral deformity and adjustment most carefully of each device to the evident lesions will make this form of treatment far more efficient.

Gun-Shot Wounds.—Experiments have been undertaken in this subject by Kayser (*Beit. z. klin. Chir.*, Band 26, Heft 2) with the following conclusions: There is no destruction of infective matter adherent to the projectile; the length of the flight is not a factor; that in spite of penetrating obstacles the bullet may be infectious; that this may not be the case when the resistance and depth of penetration have been considerable; after traversing dirty material the bullet is always infectious in spite of any other body pierced afterward; all wounds are theoretically infected though practically the body-resistance makes this danger slight. Nevertheless the open treatment of all wounds is the safer and better for both practical and theoretical considerations.

Retropharyngeal Abscesses.—Small difficult central or lateral foci in this region are approached, evacuated and drained very successfully by Schmidt (*Deut. Zeitschr. f. Chir.*, Band 55, Heft 1—2) as follows: The incision is along the inner border of the sternocleidomastoid muscle, which is strongly retracted after exposure, and the path to the retropharyngeal space is made outside of and behind the internal jugular vein.

Pathology and Therapy of Basedow's Disease.—Despite the many researches on thyroid disease, there are many important factors concerning exophthalmic goiter which have to the present time defied the investigators. F. Dinkler (*Münch. med. Woch.*, May 22, 1900) describes a unique case in which all the symptoms were extreme and were accompanied by grave nervous disturbances such as choreiform movements, hemiparesis and psychical changes. Similar cases had previously been carefully examined with the view of finding anatomical lesions in the nervous system to explain the symptoms, but without success. The author, however, by a modified Weigert stain has been able to demonstrate a degenerative process in the motor area and tract and thinks that this is the rule in Basedow's disease. The thyroid gland he has found to consist of solid acini packed with cells and with but little interocinous connective tissue between them, in which there may be cell-masses resembling the newly-formed canaliculi of cirrhosis. In other severe cases these changes were less marked, but the thymus showed a lymphatic

hyperplasia. It is possible that in these patients the thymus possessed functions similar to those of the thyroid especially since it has been previously discovered that both have an analogous physiological action when taken internally. In both sets of cases a well-developed dilatation of the capillaries and venules was found. The surgical treatment of exophthalmic goiter has come into vogue and by it life has been saved in some severe cases; on the other hand, in many the prognosis has been rendered more serious by surgical intervention. The author thinks the time has not yet come to definitely decide upon the indication and value of hemi-extirpation.

Nasal Reflexes.—Some years ago Rosenberg advocated cocaine spraying of the nasal mucosa before general anesthesia in order to prevent the irritation of the nerve-endings of the trigeminus nerve; which latter occurrence frequently called forth inhibition of the vagus and of the respiratory center in the medulla oblongata. If the cocainizing is properly done, said Rosenberg, these reflexes are not called forth and so the giving of an anesthetic, chiefly chloroform, is made much safer. F. Bruck (*Berlin. klin. Woch.*, May 14, 1900) now comes forth and denies that the cocainized parts of the nasal mucous membrane become anesthetic and, furthermore, that such a process never extends to the entire mucosa. Bruck finds three minutes after such cocainizing that the membrane still reacts to irritation. In not a single instance of the many trial cases did he obtain "certain and complete anesthesia," as maintained by Rosenberg. Bruck claims that the cocaine can only act upon a membrane free from mucous secretion. Therefore, would it be absolutely necessary to use rhinoscopy in order to clear completely the nose of its mucous secretion before cocainizing. However, there are so many crevices and corners and folds in the nasal mucosa, which it is practically impossible to reach with the spray, that a complete cocainization of the lining membrane of the nose is virtually impossible. That the marked decrease in the activity of the reflex occasioned by only a partial anesthesia of the mucous membrane diminishes the danger of chloroform narcosis, Bruck admits; but would it not be better and simpler, declares he, in order to prevent the irritation of chloroform vapor on the nasal mucosa, to stop both nostrils with cotton during anesthesia? He agrees fully with Rosenberg in the statement that the chloroform vapor awakens a reflex from the nasal mucous membrane which affects both the vagus and the respiratory center. The experiment which was made confirmed him in this view. A rabbit was chloroformed at first through the nose and later entirely through a tracheal cannula. At first both breathing and pulse-rate were deeply affected, whereas in the later attempt both remained perfectly normal. If the nostrils are occluded with cotton it certainly becomes a more difficult feat to administer chloroform for the mouth-breathing must be most carefully watched. Extraordinary care must be exercised to prevent the falling-back of the tongue during the narcosis. Meanwhile, in the light of further investigation, it may possibly be found that this increased difficulty of technic is more than counterbalanced by the extreme danger that chloroform anesthesia assumes when the vapor is allowed to act on the nasal mucous membrane.

Case Mistaken for Aortic Aneurism.—Although aortic aneurism is the most usual form of mediastinal growth, almost typical signs of that condition may sometimes be mistaken, as shown by a case reported by F. Griffith (*N. Y. Med. Jour.*, June 2, 1900). The patient was followed for about fifteen months, gradually developing signs and symptoms of pressure in the mediastinum. Marked dulness, pulsation and thrill were present over the anterior upper and left chest. Pain was sharp and lancinating. There were dyspnea, dysphagia, whispering voice, paralysis of left vocal cord, sharp cough, and unilateral symptoms of sweating and edema. Radial pulses and pupils were unequal and tracheal tugging was present. A radiograph taken gave negative results. The temperature ranged between 97.4° and 99° F. There were no night-sweats, excepting at times on the head. Dulness over the left apex seems to have been the only sign of pulmonary trouble. The autopsy showed the upper half of left lung collapsed and its position occupied by a large tuberculous cavity, containing about three ounces of bloody fluid holding cheesy masses. A large mass of mediastinal glands, the size of two fists, was present, in which were imbedded the arch of the aorta, the esophagus and bronchi. The heart was normal but small and the aorta was intact.

Therapeutic Advantages of Ferratogen.—Ferratogen differs from all other organic iron compounds in the peculiarities of its manufacture. As stated by M. Cloetta (*Münch. med. Woch.*, May 29, 1900), yeast is grown on a medium containing iron; the nuclein thus formed is isolated, digested with gastric juice and washed with alcohol containing some hydrochloric acid. There results an insoluble yellowish powder which is not affected by gastric juice and which contains as much as one per cent. of iron. Although pancreatic digestion in vitro is slow, it is well absorbed in the living small intestine. The author considers absence of gastric irritation the most important property of a ferruginous preparation and thus awards a high rank to ferratogen, since this passes the stomach without change.

Neurasthenia and the Rest Cure.—The employment of the rest cure for nervous complaints is rapidly increasing. Establishments for this trouble are springing up in great numbers. Besides those who have taken the treatment under professional advice, numbers are met with who have done so at the solicitation of friends or at

their own discretion. F. A. McGrew (*Jour. Am. Med. Assoc.*, June 9, 1900) fears that this useful form of treatment will come into disrepute unless there is a more definite knowledge of its proper use and limitations. To this end there must be a working scientific basis substituted for the present haphazard way of disposing of troublesome neurasthenic patients. The writer classifies neurasthenia under three heads, *viz.:* (1) Developmental neurasthenia. (2) Overstimulation neurasthenia. (3) Developmental plus overstimulation neurasthenia. Developmental neurasthenia occurs in persons who have a constitutional nerve weakness from the cradle up, and in those who inherit the neurasthenia from degenerate parents. Sometimes it is due to some adverse influence during fetal life; to some disorder of nutrition during the developmental period; to some accident of labor; to unhealthy environment and habits during the formative years of childhood. In these nervous children there is an instability and imperfect balance characterizing the activity of the brain and cord, and while they are unable to sustain prolonged exertion, there is often an unusual cleverness of thought and action. The person, who eventually suffers from developmental neurasthenia, is usually remarkably healthy in appearance, but complains of chronic fatigue. The symptoms are numerous, various and indefinite, but are all associated with exertion and the fatigue following it. She appears well-nourished but her muscles are flabby, her respiration insufficient, her heart-action weak; she has a languid air, and, in short, her nerves and muscles are without tone. It is very evident that such a patient does not need rest, but exercise to develop and strengthen every part of her system. A course of physical training should be instituted gradually and carried out very carefully. Hydrotherapy and massage should be added to the physical culture, and a change of diet and surroundings is beneficial. Overstimulation neurasthenia occurs in persons who are born with normal nervous strength, but whose habits of life end in the exhaustion of their inherited nervous vitality. To this class belong the business man who has much worry, sleepless nights and hurried days, until the brain tires and the nerves are irritable. Those who are underfed and overworked, those who are always "on the go," and, in fact, all who overwork in any way are apt to suffer finally from overstimulation neurasthenia. Nervous prostration is the result when the collapse at last comes. In such cases complete rest is needed and food for the wasted tissues. The rest cure is the treatment *par excellence* for the neurasthenic of habitual overstimulation. In addition to complete rest and feeding, there should be given some sedative and nutritive treatment consisting of general massage with passive movements, abdominal massage, hot spinal fomentations, saline spongings and general faradism. The writer discusses the treatment of some of the more frequent symptoms of this form. The third class of neurasthenia consists of a combination of the first two. The treatment of this form is indicated by the prominence of the developmental or the overstimulation element, and often a judicious combination of exercise and rest is necessary.

Surgery of Acute Rheumatism.—A. T. Bristow (*Brooklyn Med. Jour.*, June, 1900) believes rheumatism to be an acute infectious disease and, therefore, in many cases it demands surgical treatment. Where there is much effusion into the joints the absorbed toxic products cause the serious constitutional symptoms. Not infrequently the toxemia is less prominent, especially in the chronic cases, but the injury to the joint surfaces is greater. Therefore, there may be two distinct reasons for surgical interference in rheumatism; an obstinate effusion which intoxicates the system; or a chronic effusion which endangers the usefulness of the affected joint without causing much systemic disturbance. A third reason would exist if we could show that prompt drainage lessens the chances of heart lesions. The only statistics on the subject are those of O'Conor of Buenos Ayres, whose results have been so good that he has abandoned medication and now opens and drains a joint as soon as the diagnosis is made. Bristow believes this to be too radical, but proposes surgical interference in those cases in which operation is the patient's best chance and in which it is more dangerous to wait than to operate, and in those chronic cases where it is worth while to assume some risk to restore the patient's earning capacity.

Cholecystectomy.—C. L. Gibson (*Med. Record*, June 9, 1900) calls attention to the advantages of cholecystectomy under certain conditions. He believes this operation to be indicated in all cases of cholecystitis with or without stones, provided the bile ducts are not obstructed, and that the bladder itself can be removed without too great difficulty. It is also to be done even in difficult cases when the bladder is so situated or so retracted as to prevent safe drainage after incision, and also a prophylactic measure against malignant disease in the presence of long-standing irritation. The gall-bladder is of little physiological importance. Its extirpation under the above conditions presents the following advantages. It is safe and usually not difficult; convalescence is brief and devoid of the discomforts of discharging bile; biliary fistula is prevented; the cure is radical, for the disease focus is abolished; the attacks of pain often recurring in diseased gall-bladders after cholecystotomy are avoided; the pains and digestive disturbances due to adhesions with other viscera are avoided.

Hay Fever.—

℞ Cocainæ hydrochlorat.....gr. viii
Pulv. camphoræ.....gr. xvi
Bismuthi subnitrat.....3ii.
M. Sig. External use.—*Maragliano.*

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A WEEKLY JOURNAL

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SATURDAY, JUNE 23, 1900.

SMALLPOX IN THE UNITED STATES.

DURING the four and one-half months from January 1st to May 18th there occurred, according to the official reports of the United States Marine Hospital Service, more than 10,250 cases of smallpox in the United States. This is about one and one-half as many cases of the disease as were reported during the corresponding period of last year. We took occasion at that time to give a word of warning with regard to the spread of the disease. The warning seemed, perhaps, more pertinent to Northern and Eastern readers, since the series of epidemics in Pennsylvania and in Virginia were the features that attracted general attention. This year, however, the prevalence of smallpox at many widely separated points throughout the country makes obvious the necessity for a determined, universal effort for its eradication. Severe epidemics in Louisiana, Tennessee and North Carolina, have served to swell the statistics quoted, but the reports show that there are dangerous foci of the disease more widely distributed than formerly, and as the prosperous times make communication between different parts of the country more intimate than ever before, the peril from the farther spread of the disease is greatly increased.

The fact that the great body of general practitioners of medicine at the present day have no personal familiarity with smallpox accounts largely for the proportions the present epidemic has attained. Diagnosis is apt to be made comparatively late in the disease. Not only that, but suspicions of the character of the affection under treatment is aroused only when it is well developed. During the preliminary stage, before the characteristic eruption manifests itself, smallpox is conceded to be but slightly contagious. If suspicion of the character of the disease is awakened before the exanthematic period, even although final diagnosis may not be possible, the spread of the affection will be practically prevented by keeping the patients segregated from friends and others. Care in this matter and more active attention to vaccination in adult-life will undoubtedly stamp out the disease completely in a few years.

Up to the time when influenza became endemic in this country there were certain symptoms of beginning smallpox that had much more diagnostic significance than they now have. The splitting headache, the intense backache and the abrupt high fever, so characteristic of the onset of the affection, were pathognomonic of smallpox. The old text-books had it that these symptoms occurred in all the infectious fevers, but not with the intensity or suddenness they develop in smallpox. Certain epidemics of influenza, however, present these symptoms quite as characteristically. He would be an extremely confident diagnostician who in our day would pronounce a case to be smallpox *sine exanthemate* on the strength of these symptoms alone, even although other cases of smallpox were in the neighborhood. Such a diagnosis was thought justifiable, however, twenty years ago and these symptoms must at least always awaken suspicion of smallpox whenever sporadic cases have been reported in the immediate vicinity.

Preliminary rashes are frequently noticed in smallpox cases, and should arouse suspicion of the nature of the disease under treatment, especially if abrupt febrile temperature and severe aches are coincident. These rashes are erythematous and are spoken of as scarlatinaform, sometimes morbilliform in character. That resembling scarlatina rash is most common and occurs especially on the lower part of the trunk, in the groins, and along the sides of the trunk, espe-

cially in the axillæ. As true scarlatina also frequently appears first in these locations it must be excluded by the history. Unlike measles scarlet fever seldom recurs, so that the history of one attack conveys definitive information. The preliminary erythema of smallpox often follows the course of certain nerves. It has been noted in certain epidemics to occur especially on the external surface of the leg, affecting particularly the skin over the extensor hallucis muscle. A pathognomonic preliminary rash is pointed out by certain German observers. It consists of red hemorrhagic spots that are found especially in what is called the leg-navel triangle, that is, in the space included within imaginary lines drawn from a point between the knees to meet a line passing horizontally through the umbilicus. These spots blanch slightly on pressure, but do not disappear. Unfortunately, this eruption, which often occurs two or three days before the general macular eruption of smallpox, is not found in all, but only in somewhat less than one-half the cases. In certain epidemics, however, it is very constantly present.

Two diseases are likely to be confounded with smallpox in its initial stages. They are measles and chicken-pox. The eruption of smallpox begins with maculæ that are not unlike those of measles. To realize more thoroughly this similarity of beginning, it is only necessary to recall that for centuries the two diseases were confounded. The initial fever and aches of measles are less than those of smallpox, while the catarrhal symptoms are much more severe. Chicken-pox is usually easy to differentiate, but in exceptional cases the resemblance is very marked. Severe chicken-pox has often been mistaken for mild variola in the old days of the prevalence of smallpox. In recent years even experts have been known to diagnose mild smallpox as chicken-pox. The Vienna school has never given up the contention that the two diseases are essentially the same. Professor Senator in Berlin says that the introduction of a case of smallpox into Berlin is usually followed by an epidemic of chicken-pox. Varicella, to his mind, seems to be a variola modified by generations of vaccination and better hygienic surroundings with increased resistance to disease invasion. The pathognomonic distinction between varicella and variola is the fact that, at an early stage of varicella, lesions in all stages, macular, papular, vesicular, clear and cloudy, are to be found. In smallpox the lesions are simultaneously in the same stage, as a rule.

If attention were paid to the exact and immediate diagnosis of cases that may prove to be smallpox the spread of the disease could be absolutely limited. The present state of affairs—an increasing mortality from smallpox—is due to two things that the physicians of the country have it in their power to remedy. The one is, as we have said, lack of assurance in diagnosis; the other is the neglect of renewal of vaccination among adults. It will not require much attention to eradicate both evils if the work is taken up seriously. Let us begin the twentieth century in a manner worthy of the hundred years of vaccination that have just been accomplished.

The courts are steadily lending their support to health boards and school boards in their insistence on the necessity of vaccination. In Philadelphia at the present time a citizen is testing before the courts the right of the public school officials to compel all pupils of the public schools to take such precautions as they may prescribe. The Supreme Court of the State of Pennsylvania rendered a decision in a similar case in 1894 in which the subject was discussed as follows:

"It should be borne in mind that there is no effort to compel vaccination. The school board do not claim that they can compel the plaintiff to vaccinate his son. They claim only the right to exclude from the schools those who do not comply with such regulations of the city and the Board of Directors as have been thought necessary to preserve the public health.

"Is the regulation now under consideration a reasonable one? That is to be judged of, in the first instance, by the city authorities and the school board. It is only in the case of an abuse of discretionary powers that the Court will undertake to supervise official discretion. Vaccination may be or may not be a preventive of smallpox. That is a question about which medical men differ and which the law affords no means of determining in a summary manner. A decided majority of the medical profession believe in its efficacy. The municipal regulations of many, and, I have no doubt, of most, of the cities of this State and country provide for it.

"In the present state of medical knowledge and public opinion upon this subject, it would be impossible for a court to deny that there is reason for believing in the importance of vaccination as a means of protection from the scourge of smallpox. The question is not one of science in a case like the present. We are not required to

determine judicially whether the public belief in the efficacy of vaccination is absolutely right or not. We are to consider what is reasonable in view of the present state of medical knowledge, and the concurring opinions of the various boards and officers charged with the care of the public health.

"The answers of the city and the school board show the belief of the proper authorities to be that a proper regard for the public health and for the children in the public schools requires the adoption of the regulation complained of. They are doing, in the utmost good faith, what they believe it is their duty to do, and, though the plaintiff might be able to demonstrate by the highest scientific tests that they are mistaken in this respect, that would not be enough. It is not an error in judgment or a mistake upon some abstruse question of medical science, but an abuse of discretionary power, that justifies the courts in interfering with the conduct of the school board, or setting aside its action."

AMERICAN FESTSCHRIFTS.

THE idea of a Festschrift seems to have struck almost as simultaneously as forked lightning in three medical centers of America. First, in chronological order of publication, came the Festschrift to Dr. Jacobi which has already received extended notice in our columns. This was promptly followed by a volume of scientific papers emanating from the students of Dr. William H. Welch of Johns Hopkins, in commemoration of the twenty-fifth anniversary of Professor Welch's doctorate. We are just in receipt of a similar volume composed of contributions from the William Pepper Laboratory of Clinical Medicine, the work of men who have received their training in, or are connected with, the Pepper Laboratory.

The Welch Festschrift is a most imposing volume, beautifully bound and illustrated by some of the most artistic work that has ever emanated from Johns Hopkins. The articles themselves cover a wide range of subjects. Many of them are devoted to questions usually classified as pure science, but in the rapid strides of medical progress their observations and conclusions may be assimilated at any time and afford practical working basis for surgical or medicinal therapeutics. Among those devoted to practical subjects may be mentioned: "Urea and Some of Its Physiological and Pathological Relations," by C. A. Herter; "Some Observations Upon the Anatomy of the Gall-Bladder and Ducts," by George E. Brewer; "Experimental and Surgical Notes Upon the Bacteriology of the Upper Portion of the Alimentary Canal, etc.," by Harvey Cushing and Louis E. Livingood; "The Origin, Development and Degeneration of the Blood-Vessels of the Human Ovary," by John G. Clark; "The Gonococcus," by Hugh H. Young.

The presentation of the volume was celebrated at a complimentary dinner held at the Maryland Club, Baltimore, on the evening of May 4, 1900. Not the least interesting feature of the exercises was the description by Professor Councilman, who made the presentation, of the environment in which the work of Johns Hopkins Laboratory has been prosecuted. This has special application to the discussion that is going on just now regarding the New York State Pathological Institute. Dr. Councilman said: "The work has been in a broad field, and the workers have had a clear sky above and fresh breezes around them." These are the essential conditions of success of research work which Dr. Councilman, unfortunately, has been using his influence to suppress in connection with the Pathological Institute.

In the memorial volume of the William Pepper Laboratory, which is also artistically illustrated, we find among the more strictly laboratory articles the following practical subjects: "A Fatal Case of Sulphonal Poisoning," by Alonzo Engelbert Taylor and Joseph Sailer; "The Pathology of the Erythrocyte," by Alfred Stengel; "The Influence of Immoderate Water-Drinking Upon Metabolism and Absorption," by D. L. Edsall; "The Etiology of Appendicitis," by Charles H. Frazier; "The Etiology of Pertussis," by Joseph Walsh.

These volumes would be a most valuable addition to every medical library of the country. The editions are limited, and we have not been informed how generally they may be obtained.

ECHOES AND NEWS.

NEW YORK.

Congress of Scientific Men.—The local committee of the American Association for the Advancement of Science has made elaborate preparations for the reception of those who will attend the convention of the Association this week. The sessions will be held at Schermerhorn Hall, Columbia University, the American Museum of Natural History and the Hotel Majestic. The ex-

ercises will begin at the Majestic Hotel at noon on Saturday, June 23d.

Dr. Banta Reinstated.—Dr. Francis M. Banta has resumed active duty as medical officer of the Fire Department. Dr. Banta, who was appointed a medical officer of the fire force by the Republican Fire Board in place of a Tammany physician, was in turn removed by Fire Commissioner Scannell. The physician appealed to the courts. The Supreme Court ordered his reinstatement. An appeal was taken, and the Appellate Division of the court affirmed the finding of the lower tribunal.

Officers of the County Association.—At the annual meeting of the New York County Medical Association, held Monday evening, June 18th, the following officers were elected for the ensuing year: President, Parker Syms, M.D.; first vice-president, J. Riddle Goffe, M.D.; second vice-president, Emil Mayer, M.D.; recording secretary, Ogden C. Ludlow, M.D.; corresponding secretary, J. W. Draper Maury, M.D.; treasurer, Charles E. Denison, M.D.; member of the executive committee, for 3 years, Frederick Holme Wiggin, M.D.

St. Vincent's Hospital Alumni.—Some thirty graduates organized the Alumni Association of St. Vincent's Hospital on the evening of June 17th, at the home of Dr. Charles H. Lewis, at 47 West Fifty-eighth Street. The officers chosen are: President, Dr. Charles H. Lewis; vice-president, Dr. Charles L. Weeks; secretary, Dr. Joseph A. Dillon. The Association will meet four times a year.

St. Vincent's Motor Ambulance.—The new automobile ambulance of St. Vincent's Hospital, which cost $3000, had its first regular run on June 13th. The power is supplied by a storage battery and the vehicle is equipped with the usual ambulance paraphernalia.

New Hospital for Crippled Children.—The residence of Dr. Angell, Paulding Avenue, on the Hudson River near Tarrytown, has been leased by the Board of Managers of the New York State Hospital for the Care of Crippled and Deformed Children. Changes necessary to equip the building for hospital use will be made at once, and the hospital will be opened early in the autumn. The following physicians were elected members of the Consulting Medical Board: Drs. Francis Delafield, Robert F. Weir, W. Gilman Thompson, Joseph D. Bryant, Lewis A. Stimson, A. Alexander Smith. Reginald H. Sayre of New York, Roswell Park of Buffalo, and L. A. Weigel of Rochester.

Contagious Diseases.—For the week ending June 16, 1900: Measles, 392 cases and 17 deaths; diphtheria, 288 cases and 53 deaths; laryngeal diphtheria (croup), 9 cases and 4 deaths; scarlet fever, 114 cases and 9 deaths; chicken-pox, 47 cases; tuberculosis, 182 cases and 167 deaths; typhoid fever, 32 cases and 12 deaths; cerebro-spinal meningitis, 4 deaths; totals, 1064 cases and 266 deaths.

Tuberculosis Tests of Cattle.—The report of the Tuberculosis Committee of the New York State Board of Health for the month of May, which was submitted on June 19th, shows that among 1075 head of cattle which were subjected to the tuberculosis test, 36 were condemned and 6 destroyed. Since January 1st 1443 head of cattle have been tested, 84 condemned and 52 destroyed. Of the total number tested 1242 were grades or common stock, 80 were Holsteins and 70 Jerseys. About 1000 head of cattle in Syracuse still remain to be tested. Thus far but 1 per cent. has been condemned, which should prove conclusively that the first test, made a year ago, which resulted in the condemnation of about 5 per cent. of the entire number, was well done and that the diseased animals condemned were pretty thoroughly disposed of.

Walter Duryea Leaves Roosevelt.—Dr. Abbé's patient, Walter E. Duryea, left Roosevelt Hospital on June 19th after a stay of ten months. He was taken away in a carriage ambulance from the roof of which his litter was swung by leather slings. A surgeon and a nurse accompanied him. He was taken to Hoboken, where a sleeping-car which had its stateroom window removed awaited him. Mr. Duryea was lifted through this window, litter and all. He was taken to a private sanitarium in Danville. His physicians are sanguine of his ultimate recovery.

PHILADELPHIA.

Health Report.—Deaths in the city for the week ending June 16th were 455, an increase of 44 over those of the previous week and of 32 over the corresponding week of last year. Contagious diseases: Diphtheria, 83 cases, 12 deaths; scarlet fever, 73 cases, 3 deaths; typhoid fever, 40 cases, 13 deaths; smallpox, 1 case.

University Commencement.—The 144th annual commencement of the University of Pennsylvania was held June 13th. Of the 550 degrees conferred, 180 were Doctor of Medicine, 145 Doctor of Dental Surgery, and 11 Doctor of Veterinary Medicine. The address to the graduates was given by Acting President, Wm. L. Prather of the University of Texas.

Diet-Kitchen for Children.—A diet-kitchen for infants and children is being established at the Rouse Mission of the Trinity Episcopal Church, at Thirty-second and Wallace Streets, under the medical direction of Dr. George T. Palmer. Dr. Marcus P. Hatfield will be the consulting pediatrician. The kitchen will be open daily under the supervision of the trained nurses of St. Barnabas Guild.

The American Laryngological, Rhinological and Otological Society.—At the final session papers upon "Nasal Synechia" were read by Drs. Price Brown of Toronto, Can., and M. D. Leder-

man of New York. The former said that synechia are often the result of the rhinologist's trauma. Another cause is the freedom from post-operative pain in many cases, the patient thinking that the operation itself only is of importance and ceasing his visits before healing has sufficiently advanced to prevent the formation of synechia. They should be warned regarding this. The electrogalvanic cautery is the instrument most apt to be followed by synechia, but this statement is not meant to condemn a most useful instrument as some speakers have done. He keeps the parts separated after an operation by cotton-wool or rubber sheeting, gauze not being liked for this purpose. An absorbent cotton tampon has been left in place for ten days without giving distress or becoming offensive. Dr. Lederman uses surgical sponge or spunk for a separating-tampon after operation. This he finds to act well also in controlling hemorrhage.

In the discussion Dr. J. A. Stucky of Lexington, Ky., stated that in his experience more systemic trouble results from the removal of synechia than from any other nasal operation. He prefers keeping the patient in a hospital for two or three days before operating. Dr. While of Richmond uses as a separating material gutta-percha, such as dentists use. This can be molded to any desired shape. The cases that give him the most trouble are the dense osseous synechia high up between the turbinate and ethmoid.

Dr. Wm. H. Dudley of Easton, Pa., read, by invitation, the history of a case of cerebral abscess following chronic otitis media, with recovery after operation. The patient was a Bohemian and but little history could be obtained. As the symptoms warranted operation, the mastoid was opened. The bone was dense and no granulation tissue was found. The skull was then trephined and, after several punctures in the temporosphenoidal lobe had been made, one-half ounce of seropurulent fluid was obtained. This fluid contained pus-cells and broken-down brain-cells. The patient was violent for some days after operation and had to be tied to the bed. On the twenty-eighth day he was allowed to sit up and on the fifty-sixth day left the hospital. This was two and a half years ago. The man's intellect now seems as good as formerly.

Dr. C. P. Linhart of Columbus, Ohio, reported a case of peculiar enlargement of the turbinals. The growth had been pronounced sarcoma by two surgeons. The patient was sent to New York where the whole of the right inferior and part of the middle turbinal were removed, the growth not being thought a sarcoma, however. The wound did not do well and in a few weeks the inferior turbinal on the left side became enlarged. The patient was then given iodide of potassium in increasing doses with almost immediate improvement and the later practical disappearance of the affection.

Dr. F. H. Koyle of Hornellsville, N. Y., gave a brief report of a case of tic-douloureux. The patient had an early history of unilateral hydrorrhea, this changing from side to side. An exostosis protruded into the right nostril and the right antrum was dark on transillumination. The antrum was opened through the canine fossa, but no cause for the neuralgia was found. Ocular origin was then inferred and the patient found to have astigmatism and heterophoria. These defects were corrected and the neuralgic attacks decreased, entirely disappearing in six months. The case was reported as one due to reflex action from ciliary ganglia irritation.

CHICAGO.

Northwestern University.—The trustees of this institution have decided to continue the medical schools for men and women as separate institutions.

Alumnæ of Woman's Medical School.—The Alumnæ Association of the Northwestern University Woman's Medical School recently held its twentieth annual meeting, at which action was taken towards the establishment of two memorial fellowships, one for the Chair of Physiology in memory of the late Dr. F. A. Wadsworth, who was Professor of this Chair at the time of his death, and the other for advanced work in the Chair of Gynecology, to be known as the Dyas Memorial Fellowship. The following officers were elected: President, Dr. Marion Kelly Bowles, Joliet, Ill.; first vice-president, Dr. Hezediah Crabtree, Chicago; second vice-president, Dr. Anna White Sage, Chicago; secretary, Dr. Eliza H. Root, Chicago, and treasurer, Dr. Caroline C. Hollister, Chicago.

Association of Visiting Nurses.—This Association cared for 542 patients during the month of May. The nurses made 2510 visits. The work of the Association, it is said, covers a larger ground than any similar organization in the country. The emergency staff of untrained women gives care to hundreds of persons unable to pay for the services of graduate nurses.

Will of Dr. Miller.—The will of the late Dr. Truman W. Miller was filed for probate a few days ago. Dr. Miller left an estate valued at $175,000.

Suicide of Dr. Locke.—Dr. Robert Locke, a graduate of Rush Medical College, and for a time associated with the late Dr. James H. Etheridge, shot himself through the heart in his room June 8th, at the Occidental Hotel, in San Francisco.

Samaritan Hospital.—This hospital was recently opened, and hereafter accident cases requiring immediate attention may be taken to this hospital instead of a long trip to the County Hospital, or other institution equally distant from the business center.

Physical Test for School-Teachers.—Dr. Julia Holmes Smith, Dr. Sarah Hackett Stevenson, and Dr. Florence Hunt have been notified of their appointments to examine applicants for admission to the normal school, and arrangements will be

made for physical tests. Dr. W. S. Christopher, who is the originator of the idea, believes that the great fault of the school system of to-day is that many of the teachers have not the physical strength to enable them to teach properly. The only way to remedy this defect is to provide the proper physical test before entering the normal school. If any of the applicants fail to pass the first examination, a second will be held. This plan is heartily approved, and it is believed that it will be of great value both to the teachers and to the pupils.

Metropolitan Medical College.—Post-Office Inspector Gould has received instructions from Washington to withhold all mail addressed to this fraudulent institution, or alleged "diploma mill," or to any of the men who have recently been arrested for connection with it.

Proceeds for Consumptive Hospital.—The officers of the Citizens' Committee for the erection of a hospital for the treatment of consumptives under the auspices of the Sisters of St. Elizabeth Hospital recently held a meeting and reported having received donations amounting to $19,064 to date.

Public Health Matters.—The death returns for the past week are the lowest recorded for a similar period since the week ended November 3, 1899. Consumption shows the greatest reduction in the number of deaths, there being but 35 during the week, as against 60 the week preceding and 50 the corresponding week of 1899. The unsatisfactory feature of the public health is the continued prevalence and high mortality of the contagious diseases of children—diphtheria, measles, scarlet fever, and whooping-cough. It is barely possible that the great decrease in the impure-water diseases since the opening of the drainage canal is merely a coincidence, but a comparison of the first five months of each of the ten years between 1890 and 1899, with the first five months of 1900, strongly indicates a relationship of cause and effect.

GENERAL.

Dentists at the International Congress.—Dentists not doctors in medicine will be enrolled as members of the Congress in the Section on Stomatology. This corresponds with the arrangement made by the American Medical Association.

Photography in Embryology.—A novel use of photography in embryological investigation has recently been made by Professor G. Farro. He has succeeded in registering the movements of the heart of an embryo chicken three days after its formation.

Malaria in the Philippines.—Malarial fever has been prevalent since April in parts of Cavite and Batangas Provinces, which are garrisoned by the Forty-sixth and Thirty-ninth Regiments. Thirty per cent. of the men of each regiment are on the sick-list. Of two battalions in Batangas Province, one has 150 sick and the other 190.

Nautical Hygiene.—Liverpool and London have for some time supported establishments that are specially devoted to promoting the health of seamen and to studying and treating the diseases to which mariners are peculiarly liable. Germany has now followed this excellent example and has established the Hamburg Institute for the study of nautical hygiene. Many of the old-time diseases, such as scurvy, night blindness, the so-called ship anemia, and chronic ailments of the digestive organs, if not yet quite extinct, have become rare. A series of new diseases has taken their place and are now having the attention of the medical faculty. In order to deal with these diseases such as malaria, beriberi, blackwater fever and other tropical disorders, special hospitals are needed at the large ports.

Bad Risks.—The Supreme Lodge of the Knights of Honor, in session at Buffalo on June 16th, voted to exclude Christian Scientists and Faith Curists from the order. Such persons are considered bad risks and the lodge does not care to insure them.

The Oxford University Degree.—Prof. James Mark Baldwin, Stuart Professor of Psychology in Princeton University, Prof. Charles E. Morton, of Harvard, the Rev. Dr. Morgan Dix, of Trinity Church, New York, and Prof. Charles F. Chandler, of Columbia University, will receive degrees from Oxford University this year. Professor Baldwin, who is now abroad, is engaged in editing the dictionary of psychology which is being published in England. He has also been honored by election to the French Institute of Sociology.

Obituary.—Dr. George M. Blakes died June 15th, in Bloomingburgh, N. Y., in his sixty-eighth year. He was graduated from the medical department of the University of New York. He served during the Civil War as a surgeon in the Fifty-sixth New York Volunteer Infantry. In politics he was a strong Democrat and was appointed examining surgeon from that district under both Cleveland administrations.—Dr. Burke Pillsbury, a prominent physician, died in Middletown, N. Y., June 16th, from the results of an operation. Dr. Pillsbury had devoted much attention to the study of tuberculosis, and was a member of the Tuberculosis Congress of Paris.

Hospitals Must Pay Duty.—Under a decision announced on June 13th, by the Board of Classification of the United States General Appraisers, hospitals are not entitled to import surgical instruments free of duty. Philosophical and scientific apparatus, utensils, instruments and preparations, which are imported not to sell but for an institution established "solely for religious, philosophical, educational, scientific or literary purposes" are admitted to free entry. The Mas-

sachusetts General Hospital had protested against the action of the Customs authorities at Boston in assessing duties on a lot of surgical instruments recently imported. The hospital has educational features, in that it trains nurses and gives clinical instruction to medical students. The Customs authorities decided, however, that these educational features are merely incidental to the main purposes of the hospital.

The Plague.—Last week we recorded the fact that the courts of San Francisco had failed to support the Board of Health in its effort to maintain a quarantine cordon about the Chinese quarters. The quarantine has therefore been abandoned and the Chinamen have made haste to get beyond the bounds of Chinatown and scatter themselves throughout the city and the State. The Marine Hospital Service thereupon attempted, under the provisions of the Interstate Commerce act, to establish quarantine at the State line and allow no Asiatic to pass beyond the limits of the State, without a certificate of health. This order however was promptly rescinded. The whole matter has reduced itself to the quarantine of individual cases. As there has been no occasion during the week to apply this precaution, excitement is gradually subsiding. Advices by steamer, Vancouver, B. C., June 15th, say that the plague is steadily increasing in Australasia. Many cases are reported in the colony of Victoria, which started in the slums of Melbourne. In Sydney there continue to be from four to six new cases daily and the percentage of deaths is high. In the city of Sydney there have been 239 cases to May 21st, eighty-two of which died. In Victoria there have been some 100 cases, and in Queensland fifty-eight.

The Australian correspondent of the *Lancet* writes: It is stated that the expenditure incurred by the Government in dealing with the plague amounts to approximately £30,000 a month. The work of prevention and extermination consists in quarantining areas in the city wherever cases occur and then employing the quarantined laborers in clearing out the filth that has been accumulating in them for years. The dwellings of "contacts" are thoroughly disinfected, mostly by the "formalin" process, and all persons in any way associated with plague cases are detained in quarantine for five days. The Government distributes free a special rat poison to all householders and sends round men to remove dead rats from premises free of charge. Many houses have been condemned and pulled down. A capitation reward is given for rats and an immense number have been destroyed. In connection with the mode of transmission of the disease Dr. Tidswell, the bacteriologists of the New South Wales Health Department has demonstrated the existence of plague bacilli in the alimentary canal of fleas taken from plague-affected rats. In all the colonies extermination of rats is being carried on most vigorously. In Victoria steps are also taken to prevent the introduction of rats from other ports in vessels. Every vessel must be kept four feet away from the wharf and all pipes, ports, and scuttles closed. All gangways and ropes, etc., by which rats might get ashore are to be kept in a sticky condition with tar and a constant supervision maintained by special watchmen. A special staff is employed in inspecting and seeing that regulations are carried out. Inoculations with Haffkine's serum are being freely employed.

At Port Said the condition remains unchanged, while at Juddah and along the Turco-Persian frontier the plague continues to spread.

CORRESPONDENCE.

THE PATHOLOGICAL INSTITUTE.

To the Editor of the MEDICAL NEWS:

DEAR DOCTOR:—In view of the great danger threatening the State Pathological Institute, I cannot refrain from adding a few words to the discussion which has been called forth. It is strange that this opposition to the work of the Institute should apparently have arisen in the house of its friends. A former Commission established the Institute on broad lines, and the results during its comparatively brief existence have been so important and substantial that psychiatrists and neurologists abroad and in this country have hastened to its support, when it was seen that its usefulness was to be curtailed. The work of the Institute has been accomplished despite the great difficulties always present in the investigation of mental phenomena owing to the intrinsic difficulties of the subject itself and to the fact that almost entirely new roads had in this instance to be opened. The signed protests presented in your last issue afford a remarkable testimony to the high estimation in which it is held. A strange condition is it, indeed, when we see the Commission in Lunacy trying to destroy its own child. The Committee appointed by the Commission in Lunacy to investigate the Institute have made a very inadequate report of its workings. From what I can learn little time was spent there, and the opinion of the Committee coincides with that previously expressed by the Commission too completely to be of value.

Some of the points made by it, however, have been refuted by the report of the work already done by the Institute. One point only I need here to refer to, that is the instruction of the staff of the various State Hospitals in the best methods of pathological research. This has been done in many instances and the Institute is always ready to receive such men for instruction whenever they can be spared from their duties. I have personally looked into the work of the Institute and know that not only has a large amount of pathological work been done but investigation from the clinical side has been always going on. Epilepsy, hysteria, amnesia, subconscious phenomena of abnormal life have been studied, the

most advanced modern methods being followed. The choice of the material to be used must be left to the Director; he must be free to take it from the hospitals or from other sources. It is in this way only that some intelligent method of treatment for this class of cases can finally be evolved.

In conclusion allow me to emphasize my great regret that the usefulness of this Institute is now threatened by probable changes which, if carried out, will take away from it its opportunities for scientific investigation.

EDWARD D. FISHER, M.D.

No. 42 West 45th St., New York,
June 19, 1900.

OPINIONS OF REPRESENTATIVE MEDICAL MEN REGARDING THE PATHOLOGICAL INSTITUTE.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—As a further indication of the estimate in which the value of the work of the Pathological Institute along its present lines is held, both at home and abroad, I send you for publication a few letters selected from many that have been received, some written independently and some accompanying the protests against the present steps that are being taken toward the crippling and subversion of our scientific work in psychiatry.

IRA VAN GIESON.

1 Madison Avenue, New York,
June 19, 1900.

DEAR DR. VAN GIESON:—I am heartily in accord with the purposes and work of the Pathological Institute and of the broad lines on which you have proposed to carry it on. I should consider it a great misfortune to have its work interfered with.

CHARLES L. DANA.

New York, May 15, 1900.

DEAR DR. VAN GIESON:—Please enter my name on one or both of the protests against the proposed destruction of your Institute. Your Institute has been held up and looked up to as an example of what should be done in every State, and, hence, I feel that any crippling of its efficiency is nothing more than a base assassination of scientific research in medicine.

F. G. NOVY.

University of Michigan, May 19, 1900.

[To Dr. Sidis.]

SIR:—I beg to advise you that I understand but imperfectly the question which you have addressed to me; but if it concerns the suppression of the Pathological Institute I profoundly deplore this suppression, having appreciated by the perusal of your "Psychology of Suggestion" the part which you have taken in it.

TH. RIBOT,
Editor of *La Revue Philosophique.*

Paris, May 22, 1900.
[Translated.]

MY DEAR DR. VAN GIESON:—I gladly sign the accompanying protest and only wish that I could be of the least influence in helping you. Your scheme is admirable and you have gathered around you a band of singularly brilliant workers.

I often find myself working along lines that are not commonplace and recognize how if one does this, one must be prepared to find the work not immediately appreciated. Do not, however, be discouraged, for this "Grenzgebiet" work is that which is assuredly the most inspiriting and the most valuable for our profession. I wish you all success.

J. GEORGE ADAMI.

McGill Medical Faculty, Montreal,
May 15, 1900.

DEAR DR. VAN GIESON:—Your letter of the 17th is at hand. I have taken much interest in the present controversy of the New York State Commission, in fact am quite familiar with the plan of those who are interrupting the good work of the Pathological Institute, and regret very much that the value of such scientific investigation is not universally recognized, and hope that you will be successful in your efforts. Inclosed please find protest, which I have signed.

THEO. KLINGMANN.

Pathologist to the Michigan State Asylums for the Insane,
Ann Arbor, Mich., May 19, 1900.

DEAR DR. VAN GIESON:—In looking over the Archives of Neurology I am much surprised by the interest and novelty of the studies. If anything should happen to your Laboratory I should regard it as the greatest misfortune that neurologists could encounter in this country. I do not know whether I am wise to say it, but I think the progress in the treatment of insanity has nearly stopped. In this respect there has been little or no gain during the last few years. Moreover, I am equally sure that asylum methods do not give the individual care which appears to me essential in the treatment of insanity.

I do not know whether this letter is one that you can use or not; my object in writing it is simply to state my individual belief in the value of the work done by yourself and your assistants.

S. WEIR MITCHELL.

Philadelphia, May 10, 1900.

DEAR DR. VAN GIESON:—I enclose a protest against the crippling and destruction of the work of the Pathological Institute of the New York State Institution in Lunacy with my signature attached. I signed the paper with much pleasure and only hope it may prove of some slight use to you. I am surprised and intensely disappointed to think that there could be any move on the part of any members of our profession towards hampering the work of an institution which has done the amount of careful, earnest, scientific work which I believe your Institute has done. I earnestly hope this work may not be interfered with.

JO. H. LINSLEY.

Vermont State Board of Health, May 19, 1900.

DEAR DR. VAN GIESON:—I think that I fully appreciate the value of the work that you have been doing at the Pathological Institute, both in its relation to pure science and to psychiatry in particular. Your plans are not only broad and comprehensive in their scope, but are well devised to attain ultimately such results as are desired by all who are interested in psychiatry and who wish to see it placed on solid foundations.

Just such work as you have been doing must be done; the several rays from the various sciences must be gathered and concentrated upon the problems of psychiatry before any substantial progress can be made in their solution.

It will be an everlasting credit to the State of New York that it has fostered the inception of this most important work, but the shame will be even greater if it should fail to recognize the necessity for its maintenance as a civil responsibility.

WM. J. HERDMAN.

University of Michigan, May 19, 1900.

[To Governor Roosevelt from Prof. James of Harvard.]

DEAR GOVERNOR:—I am taking the liberty of meddling in New York State affairs by sending you a line touching my humble opinion of the importance of letting the Pathological Institute develop on its present lines peacefully for a number of years before it is judged.

I am told that Dr. Van Gieson meets with severe criticism in the profession and you will probably hear the work there called "cranky" by men of respectable judgment. So far as the *lunacy* work goes—that is the only part with which I am acquainted—I think it would be a real *calamity* to have any obstacles put in its path. Convincing results will doubtless come as fruits of the truly psychological observations that the Institute is now having made, if time is only allowed. It is probable that eventually the Institute may become quite *glorious* from what it is now doing. I know enough of the medical mind to have little esteem for its opinions when they are conservaative. I really believe that Van Gieson deserves support; and hope that you will not listen too confidingly to attacks on his methods.

WILLIAM JAMES.

Cambridge, Mass., February 11, 1899.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, June 14, 1900.

THE POLYCLINIC—MR. JONATHAN HUTCHINSON ON THE "STORY OF ROBBEN ISLAND"—LEPROSY IN SOUTH AFRICA—THE SEGREGATION OF LEPERS A CRUEL INJUSTICE—THE ANTITUBERCULOSIS MOVEMENT—ESTABLISHMENT OF A SANATORIUM AT DUNDEE—MEETING AT LIVERPOOL—DEATH FROM A BEE-STING—LEAD-POISONING AND EMPLOYERS' LIABILITY.

A CONVERSAZIONE has been given at the Polyclinic in connection with the annual dinner which will take place on Thursday. Lord Strathcona and Mount-Royal, formerly High Commissioner for Canada, and the President, Vice-Presidents and Officers of the College gave a reception. The event of the afternoon was a lecture by Mr. Jonathan Hutchinson on "The Story of Robben Island." Robben Island is a small island situated near Cape Town where lepers are compulsorily sent from South Africa with the idea of preventing the spread of the disease. Mr. Hutchinson, who strenuously advocates that leprosy is not a contagious disease, said that the leper-establishment there is to be regarded as a prison rather than a hospital. Some of the medical officers carried revolvers and, when this fact was commented on at an inquiry, one of them answered that he did not regard the place as a hospital. The plea that these lepers are confined to prevent the spread of the disease is insincere for there are 14 healthy children in the women's wards. When Dr. Impey was taxed with this fact he simply replied that if he separated the children from their mothers he would have so many demons left on his hands. He had also stated that he had never known any official, doctor, policeman, warder, or nurse to acquire leprosy on the island. If, then, leprosy is, as he maintains, a non-contagious disease, it is cruel injustice to keep 550 poor creatures in a state of confinement on a desolate island. Husbands have been torn from wives and mothers from their children in consequence of the erroneous view which prevails on the subject. Mr. Hutchinson pointed out how necessary it is that there should be a well-informed public on this as well as on other subjects, such as vaccination, hydrophobia, etc. Their cooperation is required in order that the full benefits of medical science should be reaped. If leprosy is a contagious disease, why did it totally disappear from the British Islands and from inland Europe? In consequence of the advance of civilization which brought with it improved habits of diet and not from segregation. Even now leprosy in its early stages is a disease difficult of diagnosis; therefore, segregation in the old "leper-houses" must have been very incomplete. Moreover, into these houses patients with other diseases were admitted. In one case a house was half a blind asylum and half a leper-house. Segregation has failed in the Sandwich Islands. Robben Island is a disgrace to the nineteenth century. The one cry of the poor creatures sent there is, "I want to go home!" Of it there might be said "All hope abandon ye who enter here." Many die there of a broken heart. The true cause of leprosy is the eating of uncooked salted fish which probably contained the bacillus. The fact that it is dotted here and there all over South Africa, a few cases occurring here and a few there, show that it is not contagious. No such thing as a violent outbreak has ever been recorded. There are no records of leprosy in South Africa before the Dutch introduced a number of Malay slaves to found a factory for drying fish. Leprosy is prevalent amongst the Hottentots who eat fish, but

does not affect the various Kaffir tribes, Zulus, Bantos and Basutos who do not. Mr. Hutchinson then pointed out the great value to medical science of the Polyclinic. In this institution standing committees have been appointed to investigate leprosy and many other questions, such as tuberculosis, geography of disease, etc. The Polyclinic is not a mere British institution, but exists for the benefit of the whole Empire. Its object is to improve medical knowledge in general.

The antituberculosis movement still proceeds apace. Plans for a sanatorium to be erected at a cost of $50,000 have been submitted to a committee of the Dundee Town Council. The building will be admirably adapted to its uses. The main blocks will have a frontage of 200 feet and will accommodate 18 males and 16 females. Each room for the patients will face south with an oriel window giving access to the terrace and gardens. The corridors will extend from end to end of the building and will be fitted with French windows reaching close to the floor, to admit as much fresh air as possible. At Liverpool a large and influential meeting convened by the Lord Mayor has been held to establish a branch of the National Association for the Prevention of Consumption. Lord Derby presided. The Lord Mayor said that consumption causes 60,000 deaths annually in Great Britain and that a quarter of a million of persons are now suffering from the various forms of tuberculosis. Liverpool loses 2000 persons yearly from consumption, the majority of whom are in the prime of life. The disease has now been shown to be both preventable and curable. Mr. Malcolm Morris, to whom is due the credit of initiating this great movement, said that he never dreamed that this subject would catch on so remarkably with so many classes. The gathering at Marlborough House presided over by the Prince of Wales made the subject fashionable—a very important consideration Mr. Morris said. He had come to Liverpool to preach the doctrine of the open window by day and by night. How many in that room slept last night with their windows open? Is there any fetid air to be compared with the air of the rich consumptive's bedroom twenty years ago? Even at Glasgow 32 per cent. of the consumptives have been cured and 44 per cent. partially cured, while in another place 65 per cent. have been able to return to work.

A case of death from a bee-sting has occurred at Saint Arvans, a village near Chepstow. A young woman, Miss Greenway, accompanied her uncle, Mr. George Greenway, a bee specialist, to the rectory, where she was stung by a bee and died within a few minutes. At the inquest the medical evidence attributed the death to syncope produced by the poison of the bee-sting. It was stated that Miss Greenway had on several previous occasions fainted after being stung by bees. Some time ago, in December, 1898, a case was published in the *Medical Review* of death from a wasp-sting: A strong healthy girl, aged twenty-four years, was stung on the hand by a wasp. A few minutes afterward her face became very red. She complained of numbness all over and of loss of sight. She then fainted. Curiously in this, as in the preceding case, similar symptoms had occurred on a previous occasion when she was stung. Her face turned suddenly pallid and she expired in about twenty-five minutes. These two cases go to show that the very rare fatal results of bee- or wasp-stings are due to idiosyncrasy on the part of the patients.

An action brought by a workman to recover damages from his employers in consequence of lead-poisoning shows the stringent precautions taken by the Government to protect workmen from injury in their occupations. The defendants are large manufacturers of gas-fitting and similar articles in Manchester. The plaintiff worked in a room where fittings were put together and white lead used. After the fittings were put together he had to suck them with his mouth in order to ascertain whether they were air-tight. The proper course would have been to have used a pump, but one was not provided. The atmosphere of the room was vitiated by a lead-burning machine. While working he was taken ill and fainted. He had to give up work and learned from his medical attendant that he was suffering from lead-poisoning. Judgment was given for the plaintiff with £45 damages and costs.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fifty-first Annual Meeting, Held at Atlantic City, N. J., June 5-8, 1900.

SECTION ON SURGERY.

(Continued from page 939.)

THIRD DAY—JUNE 7TH.

Hernia in Children.—The results of operative treatment in children are better than in adults, said Dr. A. J. Ochsner of Chicago, and if the same indications can be established early operation should be encouraged, otherwise non-operative management, because in the majority of cases it cures absolutely. Statistics show inguinal hernia occurs 300 times to 1 femoral in the child and the London Truss Company make the ratio 10 times greater. All large umbilical and ventral hernias in children are fatal. The chief predisposing causes are the anatomy of the formation and descent of the testes, unduly long mesentery, congenital or acquired by intestinal distention, in 25 per cent. of all cases inherited local and systemic weakness, poor nutrition and general softness and flabbiness of the muscle-tissues. The exciting factors are intra-abdominal pressure due to intestinal disturbance, flatulence, distention, constipation, urinary obstruction in phimosis, and obstinate cough or violent cry-

ing. Often the mother notices the protrusion and fearing the effects of crying feeds the baby whenever it whimpers, brings on thus indigestion, distention, constipation and, hence, really increases the lesion. Therefore, we find these conditions so often among the ignorant and poor who neglect advice. Many hernias heal before the child's sixth year, when statistics show 1 to exist in 21 patients; from that to the thirteenth year there is still more spontaneously cure, so that the ratio is 1 in 77; of these still more tend to disappear before adult life. Heredity of weaknesses through intermarriage among the Jews counterbalances the advantages of circumcision and accounts for the great frequency of hernia among them. Coley has shown that only 5 per cent. of all adult cases date their history back to infancy and childhood. The great element of the treatment is to keep the sac empty and to remove the cause, especially intestinal disorder, constipation, and phimosis. The spreading of the pelvis in growth tends to make the inguinal canal more and more oblique, to close the internal ring more completely, and to shorten the mesentery by converting some of its redundancy into parietal serosa. If the child be put into a bed with elevated foot, all causes kept corrected and the sac empty, many cases promptly begin their recovery. Others require a truss night and day to flatten and close the canal. The operative cases should be confined solely to (1) patients over 4 years old; (2) reducible recurrent hydrocele; (3) irreducible hernia; (4) incarcerated hernia; (5) strangulated hernia. The technic should stop with the ablation of the sac and closing of the peritoneum and internal ring. Repair of the canal is to endanger the health of the testis by doing too much; therefore, as a rule, the restoration of this part had best be left to Nature in children.

Ventral Hernia.—Dr. M. M. Johnson of Hartford, Conn., reviewed the causes, as follows: Deficient aponeurotic development, imperfect closure of surgical wounds, use of drains, undue damage in long incisions, stitch-abscesses and other wound infection, all healing by granulation, division of motor nerves and atrophy of the muscles supplied, lowered vitality in such systemic disease as tuberculosis, syphilis, and fatty degeneration due to the menopause. Ventral hernia occurs in 10 per cent. of all abdominal sections, whether median or extramedian. His method of treatment is, after separating the aponeuroses as far as possible, to pass silver wire relaxing sutures about one inch apart, as in the old-style "quilt sutures." The layers are then approximated by continuous animal sutures, each by itself, the skin closed and then the wires are tightened. After ten days attenuated wires are removed and the others in five days more. The patients remain in bed three weeks. His results have been good.

Male Inguinal Hernia.—All hernias, not inguinal, holds H. O. Marcy of Boston, are protrusions through relatively large holes and essentially short direct canals, but inguinal hernia has a larger indirect oblique avenue of escape. Opposite the internal ring there is normally no *processus infundibuliformis peritonei*, unless the cord be drawn down. When present this is an anatomical defect and contributes to the formation of a hernia by keeping the internal ring more or less patent. Lack of development is the great cause predisposing to hernia, because in the perfect inguinal canal the pressure from within acts laterally, just as by the oblique course of the ureters into the bladder, injury by back-set of the urine to the kidneys is prevented by the lateral compression upon the ureters by the vesical distention. The inguinal canal and the vesical ureteral implantation are the only two examples of this mechanically advantageous arrangement in man. Given the anatomic defects and any of the usual causes, slowly and gradually the viscus appears beyond the external ring and reaches the scrotal extremity. In operating he considers the following points as necessary for cure: (1) A skin-wound large enough to expose well all the factors and to enable free separation and retraction of the cord. (2) The complete emptying and ablation of the sac. (3) The closure of the proximal end of the neck short and within the general peritoneal cavity. (4) The use of sutures for this step rather than ligature which may engage some aberrant vessel and cause gangrene and death, as proved by an autopsy cited. (5) Careful reconstruction of the inguinal canal with reference to its normal obliquity. (6) The employment of buried continuous animal sutures, one for each of the two layers, avoiding the many knots of interrupted sutures and dangers of buried non-absorbable material. (7) The closure of the wound without drain. (8) The covering of it with an iodoform-collodion seal, and (9) no other dressing. The subcutaneous transplantation of the cord beyond the internal ring he condemns, because it substitutes a short direct hole by incision for the natural long oblique canal. The more complicated procedures of transplanting the pyramidalis and of interweaving the various structures have no advantages over the typical operation. The strong eversion of Poupart's ligament and the suturing of the conjoined tendon to its abdominal and posterior aspects are highly efficient details of the general procedure.

Dr. W. B. De Garmo of New York opened the discussion and said that the greatest single predisposer to hernia is any deviation from the normal anatomy of the tunica vaginalis testis and might at any possible period of life, very early, very late, or in middle life, suddenly manifest itself as such. Dr. Marcy had years ago maintained this action and described it fully. Dr. De Garmo repeated with renewed force his agreement with Dr. Marcy that the Bassini operation, with the details of special care enumerated by him, is the sole means of radical cure. As to children, he said 95 per cent. of all cases are spontaneously cured by the fifth year, and that

under ordinary conditions this would be the earliest period for operating. Confinement in bed usually works disadvantage to the patient's system and is to be set aside in the presence of a good truss which enables playing and normal life. The greatest point in ventral hernia is to separate and unite the layers, each to each, and to support the repair-work by some type of non-absorbable relaxation sutures, preferably silkworm gut.

One very active cause of hernia, argued Dr. Ferguson of Chicago, had not been mentioned, namely, the absence or deficiency of attachment of the internal oblique to Poupart's ligament. Only the muscle-structures are the active, all the others (peritoneum, fascia, ligaments and aponeuroses) in the anatomy of hernia are really passive elements. In the normal male the internal oblique takes origin from the outer third; in the normal female, from the outer half of Poupart's ligament. The fact gives her a better internal ring and, with the smaller contents of the canal, is the reason why she has fewer inguinal hernias. In 90 per cent. of all inguinal hernias this attachment will be found deficient and in 5 per cent. not to extend down Poupart's ligament at all beyond the anterior superior spine. To his mind, radical operations are of two kinds, (1) those which restore the normal conditions with more or less normal tissues; (2) those which are really plastic with tissues thinned, weakened and damaged by improper truss-pressure.

Dr. Mayo of Rochester, Minn., considers six weeks of bed-treatment highly advantageous for children. To one point of the Bassini operation he always gave attention, namely, the creation of a deep internal lower scar and an outer superficial higher scar. This is done by pulling down the lower aponeurotic flap with Poupart's ligament. To the posterior and abdominal surface of this, the deep structures are carefully secured, giving the deep internal lower line of scar. The aponeurosis is then sutured in the usual way, after the lower flap of it has been replaced, thus giving the superficial external upper scar. This difference in scar levels tends to enhance the operation very much.

Dr. Ochsner said that his bed-treatment works practically better than it would theoretically appear, because it substitutes good diet, healthy surroundings, absence of cause, emptiness of the sac, for the opposite of all, many of which can not be reached so well by truss-wearing and leaving the child at home.

Dr. Marcy went over the anatomy of hernia and proved the need of restoring the obliquity of the canal. He said early operations in children are by no means to be dreaded, but often are better than truss-wearing. Ventral hernia has occurred but once in his last thousand laparotomies of clean type; hence he feels that layer-by-layer suture is of prophylactic importance.

Dr. Johnson said when a hernia occurs through a granulation wound it is impossible to separate the layers, but that relaxation sutures make better the chances of good results.

Drainage of Lung Cavities.—Two cases were cited by Dr. W. L. Mills of Los Angeles, Cal., to show that this procedure may succeed. In rabbits attacks upon the lungs are well borne—so well that he determined to make an attempt to drain lung-abscesses in man. After six years he finally found a patient willing to undergo the hazard. The history had been one of repeated pleurisy, probably tubercular, emaciation and failure. Physical examination showed a left apical cavity, much consolidation, tubercle bacilli and elastic fibers in the sputa. Night-sweats and vomiting and coughing of pus had occurred. Good diet, rest, creosote and healthy surroundings so improved the condition that he refused interference and went home. In a short time he came back in a relapse, very septic, and ready to accept any relief. The inflammation had extended forward, where at the sixth rib, in the anterior axillary line, the abscess appeared about to point. Under ether attack was begun at this point, but no abscess or pleurisy was found. Collapse threatened and a drain-tube was hurriedly inserted. On the ninth day a sudden copious discharge of pus appeared through the tube and more was expectorated. Irrigation with bichloride solution, 1-4000, finally checked this in sixteen months. The patient has gained 75 pounds and is able to do hard manual labor.

The second case had a similar experience, nearly dying on the table, but after a few days evacuated a gangrenous abscess in both directions, bronchi and wound. The progress of his other tubercular processes will finally kill him, although sepsis from the pus has disappeared. Neither was an instance of empyema, because the pleura were normal. The effect of bichloride of mercury in the first man suggests the possible value of it in all tuberculosis. The dry climate of California was no doubt an aid in each of these patients.

Dr. Murphy of Chicago discussed the question of lung-abscess and said those with adhesions can be freely evacuated externally, with the knife better than the cautery. Such as have excited no fixation of the viscus to the parieties may be evacuated externally in two sittings, the first of these concerned with creating the adhesions. A safer method is to plunge a needle into the pleural cavity; allow 120 to 180 c.c. of air to enter by respiratory suction; collapse and compress the lung, rupturing the abscess into the bronchi and so alleviating the septic condition.

Skiagraphic Errors.—Dr. Carl Beck of New York City claims that every surgeon should be aware that lesions can be located and defined only views in several directions. Fractures often fail to appear in one but are always clear in another view. The examination of both the normal and diseased sides is needed to bring out anatomical confirmations and peculiarities, such as the occurrence of the *os intermedium pedis*. The effect of epithelial lines simulating fracture, of the cartilaginous bones of the young carpus simulating absence of development, the appearances of

new and old fracture lines, etc., all should be matters of common knowledge.

Skiagraphy in Urinary Calculi.—All the known modern methods for diagnosis of calculi, pleaded Dr. C. L. Leonard of Philadelphia, are complementary of each other and combine into a whole mass of evidence, although alone each has its limitations: Urinary analysis of collective and unilateral secretion; centrifuge; segregator; ureteral catheterization; cystoscopy; bacterial examination; determination of the functional activity of each organ; evacuator, radioscopy, etc. The best combination is, with the necessary laboratory examination of specimens, radioscopy, ureteral catheterization and sounding with the wax-covered catheters in Kelly's method, segregation with the Harris apparatus, and study of the pain and other symptoms. The wax-tipped catheter may fail to touch a stone in the renal substance itself, but is of great value when the stone is of fair size and is in the pelvis or course of the ureter. Its greatest sphere is to indicate comparative functional activity of the two organs. With a history of colic the evacuator may demonstrate a calculus in the bladder, but can not show whence it came. In most of these procedures the operation must at once follow the examination. His experience with the skiagraph covers 20 cases, 4 ureteral, 3 multiple, 4 bilateral and the balance single. This method has the following advantages under perfect technic and proper reading of the negatives: (1) Mathematically and mechanically accurate results; (2) absolutely trustworthy negative and positive data alike; (3) detection of all stones of whatever chemical formation and age and number, none left out; (4) examination of the whole tract, kidneys, ureters and bladder; (5) limitation of the nephrotomy to the exact site of each stone; (6) determination in high probability which side should be attacked first in bilateral disease; (7) entire prevention of the sequelæ and complications of unduly free exploration in cases doubtful under the older means of diagnosis; (8) fixed limitation of exploration to the perirenal regions, instead of including the kidney too. Failures are due to some error in handling the apparatus or in reading the negative, except in unduly fatty and very muscular people when it often becomes of questionable value.

Injuries of the Ureter.—This topic of accidents to the ureters during intra-abdominal operations was tersely handled by Dr. B. B. Davis of Omaha, Neb. In his reported case in removing a broad ligament growth the ureter had been divided and a short length of it resected. Its repair was made in about five minutes, as follows: A catgut suture mounted by a straight needle at each end was fixed in the proximal end from within outward, so that the needles emerged at parallel points a quarter of an inch from the division. Through the end of the distal stump, slit down about one centimeter for space and held open with small artery forceps, the needles were again passed from within outward through parallel points, traction on the suture and coaxing invaginated the upper into the lower end. The suture was then tied and a small drain inserted to the point of division. Uneventful recovery followed. He then compared the various methods in use for such accidents: (1) A permanent urinary surface fistula and its drag on the patient and community, by suturing the upper end into the skin and tying off the lower; (2) the cruder, often fatal, way of simple ligation, leaving the patient to die of anuria, first by obstruction, then by reflex action on the opposite side; (3) the sacrifice of the kidney with frequent similar results or death from shock; (4) implantation of the ureter into the rectum, sigmoid, colon or small intestine; (5) into the bladder directly; (6) end-in-end; (7) end-to-end; (8) lateral uretero-ureteral anastomosis. The conclusions were that the anastomoses provide, for the escape of urine through its natural channels, for no loss of function, for the least possible damage to the urinary system. The cicatricial contraction is very slight, and of no practical importance. The operation is readily done. The upper keeps the lower end open in the end-in-end method. If the loss of ureteral substance prevents uretero-ureteral junction, the second choice lies with the implantation into the bladder, and the third into the rectum, sigmoid or colon. In this last procedure ascending infection of the kidney is always to be dreaded.

In the discussion Dr. Kelly of Baltimore said that his wax-coated catheters have limitations. In one case, with diagnosis of left disease, he obtained pus but no scratches; on the right side, which gave no symptoms, he found scratches but no pus. The skiagraph showed stones on each side. The left and then the right were successfully treated. In skilful hands, with careful interpretation of plates taken from several directions he regards the skiagraph as absolutely diagnostic. As to ureteral anastomosis he prefers the end-to-end plan, using therefor his anastomosis guide, similar to a double-end cartridge, which, introduced into the ends, permits ready placing of the sutures which are then carefully tied. The same device is successful in joining the ureter to the bladder. He reported a case in which so much of the ureter had been lost that to avoid tension he shelled the bladder out of its bed, sutured it to the psoas muscle, and then did the anastomosis. The result was admirable.

Dr. Bevan of Chicago reported an X-ray diagnosis of three calculi, two in the pelvis of the kidney and one in its substance. This last would probably have been overlooked had not the radiograph compelled most careful search and indicated its site.

Dr. Bovée, Washington, D. C., enumerated his choice of ureteral operations, in order as follows: (1) End-to-end, transverse or oblique; (2) end-in-end; (3) end-into the side; (4) side-to-side; (5) implantation into the bladder; (6) into the gastro-enteric tract. Of the last there had been

80 successful cases, without ascending infection. He knew of one case of stenosis following anastomosis and that was due to tuberculosis.

Dr. Goodhue of Dayton, O., praised the radiograph diagnosis and reported an experience antedating its adoption. Pain in one side caused exposure and removal of a slightly-diseased kidney. At the autopsy soon after, the opposite kidney and its pelvis were found packed full of stones and pus. He also mentioned a successful case of end-into-side uretero-ureteral junction.

Dr. Winslow of Baltimore showed that the calices may be very late in joining to form the pelvis, remaining as so many separate tubes. A stone impacted in one would easily escape the wax-coated catheter, but not the X-ray.

Dr. Carl Beck of New York said that the negative radiographic diagnosis is untrustworthy, as many renal-like biliary calculi give no shadow.

Dr. McArthur of Chicago said that in his experiments he had laid uric-acid stones upon the plate and obtained no record, hence he regards the X-ray as open to grave doubt.

Dr. Summers of Nebraska described a case of double ureters he had encountered and emphasized the ready versatility the surgeon must possess.

Dr. Carpenter of San Francisco removed two inches of a ureter accidentally and successfully implanted the stump into the bladder through a long cut. The ureter entered the bladder-wall at the upper limit and emerged into the cavity of the viscus through the lower limit of the wound. Thus, the normally oblique entrance was imitated. He showed a device like the Murphy-button for urethral union and proposed to attach a thread to it to avoid its retention and obstruction. He acknowledged the great danger of phosphatic deposits upon it and thus occlusion of its lumen before the union is perfect.

In summing up Dr. Leonard replied to inquiries for the details of his technic by referring to his paper on this point in *The Annals of Surgery*, February, 1900. He asserted that all concretions *except cholesterin* are positively diagnosticated by the skiagraph. A tube the resistance of which equals a two-inch or three-inch spark through the air is too strong, one of the self-regulating tubes maintaining an even resistance of about a one-and-a-half-inch spark in the air is the proper thing to employ. Of his 20 cases he failed in only one, because his plate did not take in the whole region. The stone was in the top of the kidney and his plate contained only the lower half. The size and position of the plate are also important therefore.

Dr. Davis' final statements were that since ureteral damage usually occurs in long operations, rapidity is the great aim; hence, his preference for end-in-end over the more troublesome end-to-end style. Buttons in the ureter would almost surely clog before union could occur.

Exstrophy of the Bladder.—The features of the treatment of the patient, who was shown by Dr. A. M. Vance of Louisville, Ky., are that two large V-shaped incisions, one in each side with their angle embracing the limits of the exposed bladder, were made. The flaps thus created were boldly loosened and drawn to the median line and secured. In this way the mucous membrane on their deep surfaces turned in to form the anterior bladder-wall. Seven operations extending over nearly three years were required before plastic repair of the complete epispadias and bladder was finished. The patient has a penis which will erect four inches, but must wear a rubber urinal. His mental and physical states are much better. The bladder will hold about four ounces.

Dr. Willard of Philadelphia began the discussion by saying that even repeated operations fail, especially if skin is turned into the bladder, because urinary salts persist in depositing upon the hairs of the skin. He recommends securing a reservoir for the urine with good control in sphincter ani by implanting the ureters into the rectum, or, better, into the sigmoid or colon. If the trigonum be carried into the operation, the natural valves will prevent an ascending infection to a very large degree.

Dr. Kelly of Baltimore has failed to find that a loosening of the sacro-iliac joint affords sufficient relief of tension for perfect result. He thinks that shelling the imperfect bladder out of its bed will give ample freedom for plastic work without tension.

Dr. Hertzel of Chicago stated that in animals direct anastomosis between the bladder and rectum rarely gives cystitis and never infection of the kidneys. The natural valves seemed to afford protection.

Dr. Eastman of Indianapolis once did a left nephro-ureterectomy and sutured the right ureter directly to the urethra with fair results.

Dr. Connell of Chicago said that literature gives two classes of operation for this trouble, palliative without control and radical with control through the sphincter ani. This latter class includes, (1) direct transverse section of the canals and anastomosis into some part of the intestines; (2) direct vesicorectal anastomosis; (3) implantation of the trigonum; (4) oblique implantation into the gut, imitating the oblique entrance of the ureters into the bladder; (5) creation of a permanent artificial anus, with implantation into the rectum converted into a bladder; (6) resection of a portion of the small gut, formation of bladder out of it and implantation.

Dr. Summers of Omaha has seen four cases. In one, a female, he successfully carried the ureters into the vagina while restoring the bladder.

Dr. Vance in closing said the obstacles were sepsis from the urine and infection of the suture lines, erections even in small boys, and the relief of tension.

Urethral Asepsis.—Urinary diluents and disinfectants, stated Dr. F. C. Valentine of New York, are not to be compared in reliability with frequent irrigations in urethritis and cystitis. Piston syringes are often out of order and can not be so well

regulated as to pressure as the fountain. For the past seven years he has irrigated the urethra before and after any form of instrumentation and has had no cases of urethral fever. The irrigation seems to prevent it. He then showed a device consisting of a collapsible soft rubber reservoir, tube, cut-off, nozzle and shield which may be boiled and is suitable for office and home use. Its advantages are (1) adaptability to prostatic and septic cases; (2) perfect antisepsis and asepsis; (3) greater reliability than internal medication; (4) preference to the piston syringe; (5) avoidance of fever; (6) better asepsis than exists with the hands and instruments; (7) facility for use in the office; (8) in the home or during traveling when the doctor is away; (9) avoidance of danger in the catheters themselves.

Prostatic Hypertrophy.—Dr. Parker Syms of New York carefully described the importance of this disease from the standpoint of its frequency, complications, sequelæ, and pathology in acting as a dam to the urine, causing dribbling, residual urine, vesical dilatation and atony, chronic cystitis, finally, infection of one or both kidneys. Catheter-life is the end of these patients with recurrent subacute cystitis, then chronic, and, last, pyonephritis, unless the obstruction be removed by operation. He prefers prostatectomy to the prostatotomy of Bottini with which he had had little experience. The contraindications for enucleation are disease of the kidneys and arteriosclerosis. If attention be given to these the results would be better. The indications are to operate on generally sound patients as soon as catheter-life is inevitable. Perineal enucleation is the best, combined with a small suprapubic cystotomy, so that the gland can be pressed downward or the same accomplished by suprapubic pressure on the intact thin parieties. Still better is the insertion through the divided deep urethra and bladder, as in Alexander's operation, of a rubber bag devised and exhibited by himself. This should be filled with water and employed as a retractor to draw the gland down. In the presence of cystitis it is well to drain the bladder; in its absence it is better not to enter either the urethra or the bladder.

Opening the discussion, Dr. Thayer of Clifton Springs, N. Y., said that a simple fountain syringe with a shield had all the advantages of the costly Valentine device. Dr. Glenn of Alabama said that in fifteen years' experience he has never irrigated except in purulent urethritis and never has seen fever when clean instruments and sterile unguents are employed. Dr. Young of Baltimore uses the Bottini operation in simple cases. In median lobe hypertrophy he makes two cuts. After introducing the instrument he rotates it to one side, withdraws it until it engages and cuts. Then he repeats it on the opposite side. Suprapubic prostatectomy is also valuable. Dr. Chismore of San Francisco says over-irrigation damages. The prostatic field is well exposed by the dorsal position with the knees strongly flexed on the chest. Dr. Beck of New York not only irrigates the urethra freely, but also injects iodoform and glycerin after instrumentation. Dr. Robbins of Detroit said that urotropin alone is a good urinary antiseptic. Dr. Eastman of Indianapolis said that a piston syringe in the skilled hand is best and fulfils all the requirements of convenience, ready sterilization, and copious irrigation. Dr. Billett of Louisville, Ky., does a suprapubic prostatectomy with drainage by choice.

Dr. Guiteras of New York made the following points: Simple urethral irrigation is always good. Rapidity comes with practice. Never let the patient irrigate himself if he have a stricture or prostatic enlargement. Never let him use any but very bland solutions. A piston syringe may not work well; hence, a fountain is better. Always stop as soon as the patient says the bladder feels full, otherwise strain and hematuria result. Prostatic treatment is still in its infancy, choice lying between catheter-life and enucleation. Never operate if the kidneys and blood-vessels are diseased. Enucleate when the lateral lobes are enlarged. Do the Bottini operation when the middle lobe is moderately enlarged, the suprapubic if it is much increased in volume. Learn the value of rectal touch and instrumental examination of the urethra.

Dr. Valentine closed the discussion by saying that he had combined the cystoscope and Bottini incisor to avoid some of the objections the operation had of being done in the dark. He had no instrument to show.

FOURTH DAY—JUNE 8TH.

Tubercular Knee-Joint.—Dr. Wisner R. Townsend of New York emphasized the importance of both constitutional and local treatment. There is no specific for tuberculosis, but good diet, tonics, creosote, guaiacol, change of climate, and out-of-door life, will do much to aid the system in combating the disease. Locally rest, protection, correction of deformity, removal of the tuberculous foci and prevention and cure of complications are the indications. Protection and rest are usually obtained by some form of splint, preferably one like the Thomas used much at the Hospital for Ruptured and Crippled in New York City. With it observation of the progress of cure can be made. It is lighter than plaster of Paris and gives less irritation to the skin. The shoe of the sound side is built up so that in walking, which must be with crutches, no jar or function is allowed on the diseased joint. Any weight on that side is received entirely on the pelvis through the perineal ring so that the knee is not disturbed. The extension possible with such a mechanical splint tends to correct or even prevent the deformity. For the fuller realization of this point we have the plaster or other self-hardening bandage best applied from just above the ankle to well above the pelvis as a spica; many means of extension; osteoclasis; osteotomy; forcible reduction, and *brissement forcé*. If operation be necessary the last two methods are the least de-

sirable. The aim is to avoid deformity by making early diagnosis and traction from the beginning of treatment. The removal of the focus may be done by injections; arthrotomy with curetting the disease away; excision, not advisable in children because the epiphysis is almost certainly damaged; amputation when the disease is very advanced and deformity hopeless. The ordinary complications are abscess, sepsis, and sinus. The abscess should be excised when possible, otherwise widely opened, scraped and drained; if in the bone-substance, wide gouging must be done. The sepsis of joint-disease requires free opening and drainage, ofttimes amputation. Sinuses sometimes yield to drainage, asepsis and stimulation, but often require wide excision. The non-operative treatment usually requires two years in simple and three years in complicated cases.

Dr. Barton of Philadelphia began the discussion by saying that an attempt to excise a cold abscess should always be made. Dr. Dawbarn of New York pointed out that shortening is always greater after injury to the lower than to the upper end of the femur. Dr. Ochsner of Chicago regards the systemic more important than the operative treatment in the early cases. Most of his patients come from a damp, overcrowded lake-front part of Chicago, filled with tuberculosis. If he can get the family into a part of the city with dry soil, and no cellars and comparatively healthful surroundings, improvement at once begins. Dr. Sullivan of Chicago pleaded for the earliest possible diagnosis in order to avoid deformity, sepsis and amputation. Dr. Bullitt of Louisville, Ky., referred to the statistics Dr. Gibney reviewed before the International Congress in Berlin, when, under mere bandages, fair protection and good hygiene in the early days, good results were accomplished. In these later years of improved appliances still more is done.

Fractures of the Patella.—The failure of the bony union, said Dr. Barton of Philadelphia, so often resulting in non-operative treatment, leads to fracture on the opposite side, and has a medico-legal significance. Operative treatment under care has none of these objections; it has a low mortality now and has always been his choice, after waiting a few days for reaction to occur. The advantages and disadvantages of the two methods should always be explained to the patient and the responsibility of the choice left with him. No suture of the peripatellar soft tissues can be trusted. Hence, wiring the fragments with one or more pieces of silver wire is the best. The suture must not lie upon the cartilaginous surface, but simply penetrate the bone. The twisted end may be laid into a slit in the tendon. His choice as to patient is only those in good health with high resistance powers and commonly with fracture by muscular action. Prompt operation gets ahead of the organization of blood-clot and is better for the patient. If there is much damage to the soft parts small drains from the lacerated parts for a day is sufficient. Passive motion should be begun after three weeks.

Unreduced and Irreducible Dislocations.—Dr. A. D. Bevan of Chicago said that experience with old joint-injuries, with the pathological conditions found in open operations of very frequently displaced small fragments of bone intercepting the replacement of the joint has led him to try prompt invasion of the joint when all proper manipulations have failed to reduce and when the X-ray showed splintering of one or more of the bones. His data are drawn from three cases of elbow-, one of hip-, one of astragalus-dislocation, unreduced and not reducible. In pre-antiseptic days joints were left alone as a fixed rule with rare exceptions, but in these antiseptic and aseptic times old cases are infrequently opened and good results follow. In literature, however, there are few cases in which immediate exploration has been done. All his cases healed primarily, with perfect or good partial function and his conviction is that the method is surgically sound. His conclusions are: (1) Highest standard of asepsis and antisepsis; (2) free opening of the joint (of the elbow best by two lateral incisions over the condyles rather than a long posterior one with damage to the triceps tendon; of the hip best in front with separation but as little division of muscle as possible; (3) careful exploration for bone-fragments with entire removal; (4) full division of adhesions or bands, if these exist; (5) emptying the joint of clots; (6) closure without drain; (7) after-treatment in splints the same as under ordinary surgical conditions for each joint, namely, at the elbow semi-flexion and pronation; (8) responsibility of choice to be the patient's after full explanation of the dangers and possible benefits; (9) failures to reduce to be at once followed at the same sitting by excision of the joint to restore it; (10) operation when usual means have failed and before callus is cast about the offending fragments, bands and adhesions occur or clot organizes; (11) careful skiagraphic study in each case before proceeding; (12) only the old cases should be drained; (13) sterile salt solution is the only proper irrigation.

The discussion was opened by Dr. McLane of Detroit, who called attention to the entire practicability of this method on the ground of modern primary open method in all surgery, illustrated in compound fractures and tenotomy.

Dr. Blake of Chicago said that the finger must not touch any part of the joint in fractures of the patella, but instruments alone. The patella heals as do other bones; therefore, apposition by removing soft parts between the fragments and suturing the peripatellar soft parts with chromated gut and securing a fitting splint-support merely are necessary. Sterile water should be the sole irrigation. Operations should be done at once or before the clots cause adhesions. Recent clots and fresh blood can be absolutely washed from the joint. Dr. Tinker of Philadelphia said that aluminum-bronze wire is used by the Germans because it is slowly absorbed.

Dr. Ochsner of Chicago pointed out the frequency with which the patellar fragments roll outward and have clot between. The transverse incision in his hands is better by giving free access to the expansions of the quadriceps tendon which so often embraces the bone at the sides and should always be sutured. Chromated catgut is absorbed and is far preferable to wire. A rubber bandage over the thigh during the operation and until the patient is in bed prevents spasm of the muscle and damage to the sutures. Three weeks after operation he has his patients walk with aid. His operations have varied from one day to one year after the injury. The former is his choice.

Dr. Means of Columbus, Ohio, reported 9 successful cases of patellar suture. He never allows his hands to touch the tissues, and never uses wire. The incision is always adapted to the case, hence it varies. He also outlined a satisfactory early operative invasion of the shoulder for unreduced and irreducible dislocation. Dr. Barton said his fingers touch only the fracture surfaces. Sepsis in his observation always begins in the skin. An absorbable suture would probably be preferable to wire, but choice lies always in suturing the bone itself, not the tissues about it alone. The retention of the fragments free of interposed soft tissue in good contact, judicious selection of resistant, healthy cases, and rigid antisepsis are the needs.

Dr. Bevan of Chicago closed by asserting that the non-operative management is often absolutely satisfactory. In his hands a prize-fighter with each patella fractured had been cured and enabled to resume his vocation. The doctrine that all men under all circumstances should open the knee-joint is dangerous in the extreme. In skilled hands, with all possible facilities and precautions, no doubt the suture is a good procedure.

Serumtherapy in Tetanus.—Dr. J. D. Blake of Baltimore brought out the necessity of early and liberal use of the antitoxin serum in reporting five cases. The first, a carpenter, acquired the disease by a crush of the fingers, and was cured by 50 cu. c.m. The second was a lad who ran a fence sliver deeply into his thigh, and was saved by 60 cu. c.m. The next was a machinist injured by a nail and recovering after 60 cu. c.m. The fourth, a bather, forced a bit of rotten stump into his foot, part of it remaining in for a few days. He died after 40 cu. c.m. had been given, having come late under observation. A carpenter was the fifth patient, infected by nail and saved by 70 cu. c.m. The injections were subcutaneous. The organisms were identified in the blood of only two.

In the discussion Dr. Whetmore of New York City directed attention to the report in *The Annals of Surgery* of 9 cases treated at Roosevelt Hospital, all infected from toy pistols; 7 were trephined and the serum injected into the lateral ventricle, and two received subcutaneous treatment. All were "star" cases.

Frontal Sinus Tumors.—Dr. Hamilton of Columbus, Ohio, reviewed two cases of frontal sinus growth and enforced the need of early recognition and prompt operation. Commonly the neoplasms are osteomata or malignant invasions, with any possible local result, bone absorption, chronic or subacute meningitis, abscess of the brain, etc. The second case had a three-year history, no tuberculosis and no syphilis inherited or acquired, marked exophthalmos, optic neuritis, retinitis, choroiditis, amaurosis on each, especially the left, side. Upon exposure both posterior walls of the sinuses were found to be eroded; local thickening of the meninges; both orbital plates absorbed; pus in the left orbital cavity, causing the more marked signs in that eye. The finger could palpate the left petrous bone. After thorough removal most of the eye symptoms disappeared and the patient's mental and moral state cleared up wonderfully.

Dr. Dawbarn of New York stated his experience with an obscure growth in the antrum of Highmore. A tooth had been removed by a dentist for persistent pain and had a soft growth attached to its fang. No importance was attached to this. But the pain was not relieved and upon light examination a growth was appreciated. Dr. Dawbarn took a straight cambric needle in a needle holder and by forcing it through the cheek finally ascertained where the bone had been absorbed. He found the consistency here about the same as that of cartilage. The simple plan of palpating bone beneath soft parts he considers of value.

Injuries to the Head.—Dr. W. H. Earles of Milwaukee, Wis., said no accident to the head is too trivial not to need treatment, and none is too severe to be hopeless. The anatomical position of the head and the erect posture of man make the head very exposed. Simple scalp-wounds may be fatal through infection and complication. The outer and inner tables may be broken independently and often the inner with depression and meningeal or brain lesion. Frequently, there is not even a scalp-wound, yet cerebral laceration, contusion or hemorrhage may be marked. The important things to ascertain are the condition of the substance, membranes and vessels of the brain. Simple scars of lacerations may lead to chronic meningitis, headache, epilepsy, or insanity. The procedure should, therefore, be free exposure, minute investigation of bone-membranes and brain, with careful repair of damage, especially the removal of pressure by bone fragments, etc.

Laminectomy.—In spinal disease, said Dr. Samuel A. Lloyd of New York, the mechanical treatment is often too tedious, does not arrest the process and, hence, often makes operative interference necessary. In cases of tubercular spondylitis the following broad principles are applicable: Laminectomy with exposure of the disease-area should be thoroughly done (1) when the case is evidently advancing, is complicated by abscess-formation or by myelitis of any type; (2)

when the disease is posterior and paraplegia is being established. Tubercular deposits elsewhere in the body usually contraindicate operation. The cervical region is least, the dorsal and lumbar vertebra and the sacrum are next in order of advantage as fields. As a rule, the pressure will be found due to granulations, tubercular detritus, abscess, rarely to bone itself. Tumors from this point of view may be of the cord itself, its membranes or its bony canal and, hence, embrace almost any possible variety, malignant, benign or inflammatory. In general the surgeon's guides in these are the same as in fractures. Statistics give 8 per cent. deaths directly attributable to the operation. Cervical fractures have few recoveries; elsewhere the prognosis is better. If the cord is evidently crushed or cut across, as may be estimated by the sum total of the symptoms, then operation is useless, but, with the slightest outlook for benefiting the patient, it is always wise to try. Late symptoms may be due to slow inflammation, or, as in the fractures of the arches and spines, to exuberant cells. Lesions of the cord itself are necessarily complete and absolute or partial with final suspension of the function of the injured part of the cord or with renewal of the same after a variable interval. Hence, are deduced the following laws for operation: (1) If destruction is complete, no operation; (2) if partial and the patient's condition is stationary, neither improving nor retrograding, operate in the hope of some benefit; (3) if partial and rapidly extruding, operate because hemorrhage, effusion or operation may be the cause; (4) if partial, with improvement at first then stationary, operate; (5) if recovery is practically complete and late signs supervene, operate to remove the callus or other source of pressure. The damages are shock and hemorrhage. The latter is usually controlled easily. The former may be well combated in any of the modern ways and largely avoided by waiting for the signs of the original shock and concussion to pass off. In general, we should be guided not by local deformity and displacement, but by signs of cord damage inherent in sensory, motor and reflex functions. Since the true source of pressure may be extra-, or intradural fluid, rarely than bone, the contents of the canal must be exposed and inspected beyond the site of essential bone damage. Again, the membranes often require incision to evacuate foreign contents. In general, as in the cranial cavity, all sources of pressure must absolutely be removed.

Dr. Dawbarn of New York in the discussion added that he had treated one patient a year and another two hours after injury with good results. But in general immediate operation, as in skull injury, directly after the initial shock, is the best method. Dr. Hough of New Bedford, Mass., said he had cured a case presenting first paralysis of both legs, then of the right and later of the left arm. He removed the sixth and seventh cranial laminæ. The patient now has paresis of the right arm only.

Surgery in the Aged.—Dr. J. P. Tuttle of New York reviewed his experience with 163 patients aged over fifty years and 133 over sixty. The second group averaged about sixty-nine years. Two deaths had occurred from pneumonia and one from a confusion of urine specimens which led to operation on a man with advanced renal disease. The operations were many of them major, representing hemorrhoids, hernia, varicocele, resection of the intestine, fistulæ-in-ano, prolapse of the rectum, hysterectomy, etc. The anesthetic employed was ether 183 times, cocaine 30, chloroform 13. In the rest of the cases no minute of the anesthetic was made. There were no deaths from anesthesia. None of the patients was robust. None was selected for the paper. Almost all had moderate albuminuria. Fatty and epithelial casts always excluded, but only very many hyaline casts prevented operation. Celerity and rigid asepsis were always followed. Shock was often absent. Primary union was the rule. In the aged we assume either no vicious habits and good care or originally fine constitution or both. Hence, operations should be well borne.

Dr. Dawbarn of New York said first and second childhood are alike in that sepsis is extremely fatal. Constitutions made poor by alcoholism also bear infection badly.

Intestinal Sarcoma.—Quoting from statistics, Dr. C. Van Zwalenberg of Riverside, Cal., said that in 14,000 cases seen during fifteen years primary sarcoma had occurred 13 times, of the ileum 7, jejunum 3, cecum 2, ileocecal valve 1. Dr. Weir reported 2 instances in 35 resections of the intestine. His conclusions are that it occurs 1 in 1000 cases, invades the small gut usually, causes dilatation rather than stenosis, follows few of the features of carcinoma, behaves usually as a kind of infection and is difficult of early diagnosis. Wide resection of the gut and extirpation of evident secondary deposits as early as possible are the indications.

Nerve Injury.—Dr. B. B. Eads of Chicago stated the histories of several instructive cases of successful primary suture of the median and ulnar nerves. Statistically, he collected 294 cases of nerve-repair in addition to his own, distributed thus: Immediate or primary operations, 62 successes, 62 improvements, 49 failures; secondary or late operations, 61 successes, 61 improvements, 19 failures. His conclusions are that as a rule a primary suture is the better, consistent asepsis and antisepsis, no drain-tubes, no chemical antiseptics, catgut transfixion and fine silk sutures in the sheath, no tension, careful approximation, relaxation by position, removal of the restored nerve as far from the probable site of scar tissue or possible.

Retained Catheters.—In external urethrotomy, Dr. J. R. Eastman of Indianapolis, Ind., said, most surgeons retain catheter drainage from twenty-four to forty-eight hours; a few three to six days. In his own cases he had kept them *in situ* as long as twenty days in hematuria, decreasing the tension, increasing the urethral caliber

and stopping the bleeding by rest. Before the days of clean surgery, continuous drainage by the retained catheter was abandoned, because cystitis and other infections so often occurred. But since that time gradual return to it was being made. Cystitis may be caused by direct traumatic contact or by decomposition. If the instrument be inserted just the right distance and changed at intervals and irrigation of the bladder and urethra done regularly, then it can usually be prevented. Sometimes in urethrotomy the canal is too tortuous and tender to permit anything but retention. A large catheter properly managed, permits little movement within the urethra, hence, little irritation, gives little leakage, is well borne, prevents spasm, secures dilatation and usually avoids long after-treatment by keeping urine out of the perineal cut. The dilatation seems to be such that often, while a No. 26 Fr. catheter was passed, a No. 32 sound will go in easily.

Dr. Lord of Nebraska said the only contraindication is a truly septic urethra.

Dr. Guiteras of New York said that retained large catheters straighten tortuous urethras, overcome spasmodic stricture, alleviate follicular prostatitis, often aid the better healing of traumatic stricture, provide continuous drainage in fracture of the pelvis early and late when fibrous tissue may invade the perineum, soothe spasm in seminal vasculitis, introduce the patient to catheter-life very gracefully by straightening the canal, overcoming spasm and habituating the mucosa to the instrument. Cleanliness and irrigation avoid the urethritis of retention. Deposits upon the catheter should be washed off and the instrument changed. In typhoid and other severe fever to obviate frequent catheterism the retained instrument can well be used.

Dr. McLelland of Ohio rehearsed a case of prostatic spasm with retention. Suprapubic puncture with a trochar and cannula was done and a catheter passed through the cannula and left in. The drainage relieved the congestion and spasm so that large sounds could be passed. Dr. Holmes of Philadelphia mentioned a case of cystitis, sinus and vesical calculus, for which he had used a retained catheter with advantage.

Dr. Kelly of Baltimore reported a case of tubercular nephro-uretero-cystitis of the left side. The patient had suffered most from the bladder lesion. Hence, he decided to explore that first. This operation was so well borne that he determined at once to do the radical steps. Through his usual loin incision, somewhat shortened, he freed the kidney and the ureter and passed them down to the pelvic brim behind the peritoneum, through his median exploratory wound he shelled out the bladder, excised its diseased zone and after freeing the balance of the ureter removed the bladder segment, ureter and kidney together out of the median incision. The bladder was sewn up with catgut and fine silk down to the mucosa in two rows. Recovery was well under way when by accident the bladder became distended, burst and death by peritonitis resulted. The anesthetic was chloroform, but gas and ether and gas and oxygen were both being tried by him. The specimen from this case was exhibited. He also desired to say that he had never seen a case of primary vesical carcinoma. A nodule once found in the bladder proved to come from one in the uterus previously unknown which worked its way by contiguity into the viscus.

Anatomy of Hanging.—Dr. E. W. Holmes of Philadelphia said in his investigations he concluded that death is due to one or more of the following causes: Apnea, asphyxia, hyperemia or anemia of the brain, shock, cerebral concussion, neuroparalysis and, perhaps, least frequently, broken neck. It is probably painless. Electrocution appears to be fatal through universal muscular tetany—especially of the heart.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

SECOND DAY—JUNE 6TH.

(Continued from page 943.)

Dr. G. C. Carpenter of Columbus, Ohio, Superintendent of the State Hospital for the Insane, read a paper on "Pelvic Disease as a Factor of Cause in Insanity of the Female, and Surgery as a Factor of Cure." He said it was early observed that pelvic disease is associated with mental changes at puberty, the menopause, and in the post-climacteric period. A close anatomic connection and intimate physiologic relationship would thus seem to be indicated. He traced the embryology of the generative and nervous systems in man and other animals, and proved that comparative embryologic development of the nervous system and generative organs show a precedence of nervous functions. The sex is not distinguishable up to the third month, while long before this time the brain, cord, and nerves have been formed and are functionating. The entire nervous system also develops from the epiblast, while the genito-urinary organs develop from the mesoblast. He showed that the older ideas as regards the cause of many forms of insanity in females are exploded in many instances. It would appear that pelvic disease is a factor in the cause of these mental changes, and that surgery is a factor in the cure of the condition. The pelvic condition should be ascertained in every case and if any disease is found an operation should be urged. This method will give to the insane woman the same advantages enjoyed by the sane.

Dr. C. H. Hughes of St. Louis, Mo., presented a paper entitled "The Interrelation of Gynecology and Neurology in Practice." He said that the advances made in bioneurologic discovery give just warrant for the statement that, with a proper understanding of this subject, there ought to be one opinion respecting the interrelation of neurology and gynecology in practice, and but one method of therapeutic procedure among both gynecologists and neurologists; that is, to treat the whole organism and every damaged part for

the best results. The omnipresence of the nervous system throughout the organism, with its afferent and efferent communications, is noted, as may be witnessed, for instance, in the interrelation of the vagus nerve and brain and the abdominal and thoracic viscera; the relation of hysteria and of a cortex lesion to its varying subcortical and peripheral abnormalities of function; the proven interrelation of pelvic and cerebral states as shown in the various phases of erotic life and evolution; and in the neurophysiologic and neuropathologic changes, both central and peripheral, of the catamenial stages and the menopause in women. Their alteration, beginning in the governing nervous system and effecting active and reactive influences revealed in a clinical symtomatology largely nervous, but also in grave pathologic changes of uterine stricture, indicate that the patient must be treated in whole, as well as in part; that there is a general as well as a special clinic on hand, a case in which the knowledge of more than one specialist is often demanded in treatment. Mere local manipulation and remedy are not all that is demanded. Woman has both a gynecic and a neurocerebral function and sphere of physiologic and pathologic influence and often deserves, when ill with local manifestation of disease, both neurologic and gynecologic treatment at the same time. The gynecologist, if he treats her all over as she deserves, should be much of a neurologist and the neurologist *vice versa*. Too many gynecologists see their patients only through a speculum and many neurologists see them only through the nervous system. Both of these classes are narrow.

Dr. A. L. Beahan of Canandaigua, N. Y., read a paper on "Tubo-ovarian Adhesions; Their Reflexes," in which he stated that there were two classes of pelvic adhesions, the massive, heavy form due to active inflammatory changes, and a milder form in which the inflammatory action is not so marked. The first form is ordinarily gonorrheal in origin. The development of these tubo-ovarian adhesions is never ushered in by severe symptoms. The first indication of the disease will be in the remote effects acting through the sympathetic nerves on distant organs. In these women a careful examination under an anesthetic is indicated, and if pelvic trouble be found a radical operation should be performed. Continued trouble here will ultimately disturb the nervous system and hysterical symptoms will sooner or later appear. The differential diagnosis of this border-line disease is paralleled by insanity caused by structural changes in the appendages. The former consigns the patient to chronic invalidism, misnamed neurasthenia or hysteria; the latter excludes her from society or even ostracizes her from home.

Dr. Edwin Ricketts of Cincinnati, Ohio, read a paper entitled "Gall-Stones and Diseases of the Gall-Bladder and Nervous Symptoms Resulting Therefrom." He said the peculiar nervous symptoms, at times indescribable, accompany the presence of gall-stones. These stones are usually found in the excretory apparatus of the liver, the bile-ducts, liver-cells, adventitious cysts, or in the intestinal tract. The contents of the gall-bladder, with or without gall-stones, may become infected by the bacterium coli communis or by a pyogenic streptococcus which gains entrance from the duodenum or through the blood of the portal vein. The prevalence of gall-stones in insane subjects is a recognized fact. Gall-stones should be removed as soon as diagnosed. Distended gall-bladders that fail to be emptied as the result of internal medication alone, as by the use of calomel, or in combination with massage through the abdominal walls, should be drained by means of a cholecystotomy.

In the discussion Dr. Porter of Indianapolis said that in this class of nervous patients the gynecologist should call in the neurologist and the two work together. He called attention to the nervous symptoms induced by the menopause artificially produced, which at times even amount to a true hystero-epilepsy. Before proceeding to operation in nervous cases a consultant on nervous affections should be called in, and every insane hospital should have a visiting gynecologist.

Dr. Shoemaker of Philadelphia remarked that pelvic disease, or pus-tubes, fibroids, and the like, induce anemia and deterioration of blood, and for this reason if for no other operation would be indicated to relieve the local and general condition, if not the nervous symptoms.

Dr. Eastman regards insanity and cancer as the two most important questions of the day in gynecology.

Dr. Benjamin of New Jersey stated that many ovaries are being removed for the relief of pain. He does not believe in the removal of organs in order to cure pain. Operations are not done for neuralgia over the eyes or in the chest. In these pelvic cases he gives the remedies used for neuralgia elsewhere and has excellent results.

Dr. Zincke of Cincinnati would remove all disease before the patient is admitted to the asylum. He would not operate on every case of gall-stones that was diagnosed.

Dr. Carstens of Detroit said that if the case was diagnosed early and the cause removed early, the symptoms would not develop. It is not the gynecologist, but the general surgeon who removes the ovaries to cure insanity. The gynecologist has learned his lesson too well to do this.

Dr. Baldy of Philadelphia said the whole matter could be included in two questions: Do gynecologic troubles cause insanity? If so, will operation cure it? He is convinced that gynecologic troubles do not cause insanity. He thinks it is unnecessary to examine every patient who enters an insane hospital. There is probably a greater proportion of women in health with pelvic lesions than in the insane asylums. The only justification for operation is when the lesion is giving symptoms. Insane cases following parturient and puerperal lesions will recover. This is not true of cases of other origin and I desire to protest against the effect of operative procedure.

THIRD DAY—JUNE 7TH.

Dr. A. H. Goelet of New York read a paper on "Aseptic Minor Gynecology with Demonstrations." He stated that it is easy enough to be clean in gynecologic work. Patients are easily infected by carelessness in this respect. Cleanliness in every-day gynecology is absolutely essential in office-work and in every gynecologic examination, not only for the protection of the patient, but for the physician also. Cleanliness in every detail always reverts to the benefit of the physician, because it is pleasing to the patient and inspires confidence. The examining-chair or operating-table should be arranged and kept ready for use. The instruments are to be selected for use and placed in a shallow dish half-filled with an antiseptic solution. All articles likely to be needed for the examination, such as sterilized cotton swabs for sponging, gauze prepared for tampons, prepared cotton-wool tampons with strings attached, should always be placed conveniently before beginning the examination. Such remedies as may be needed for application are to be in readiness. A reservoir containing an irrigating solution must be filled and placed in position so as to be convenient. He has devised a special form of air-cushion for operative and office-work. This is to be covered with a clean cloth for each patient, and obviates wetting the patient's clothing. The hands must be thoroughly clean in order to avert danger, the staphylococcus is always present and often the streptococcus. Ordinary soap and washing will not cleanse the hands. The author employs a liquid soap with the brush. For douching he uses an ordinary percolator with a rubber tube attached. The character and significance of every leucorrheal discharge should be investigated and understood and an antiseptic irrigation of the vulva and vagina should precede every digital examination. Asepsis in the examination at the patient's house is just as important as at the office, and for this purpose he has devised a special aseptic case.

The Nominating Committee reported the following names: For chairman of the Section, Dr. H. B. Newman of Chicago; for Secretary, Dr. C. S. Bonnifield of Cincinnati.

"The Symposium on Cancer of the Female Generative Organs" was opened by a paper read by Dr. L. S. McMurtry of Louisville, Ky., entitled "The Prophylaxis and Diagnosis of Cancer of the Uterus." He stated that there are two varieties of cancer of the uterus pathologically, namely, epithelioma and carcinoma. The epithelioma shows squamous cells and infiltrates the deeper tissues; the carcinoma involves the structure of the uterus and invades the glandular substance. Erosions of old cervical lacerations are often the starting-point of carcinoma. The disease begins near the external orifice and infiltrates the tissues. The surface is at first smooth or nodular. Ulceration usually occurs early in the course of the disease. The cauliflower growth bleeds freely and advances rapidly. The process of invasion is usually by continuity of tissue. Adenocarcinoma of the uterine body is localized in the early stage in the mucous membrane. Later the uterus increases in size, the entire cavity is filled, and the muscularis is invaded. The diagnosis must be made from the subjective symptoms, examination by touch and sight, and the microscope. In the initial stage of uterine cancer there are no symptoms. As the disease advances the three classical symptoms, hemorrhage, discharge and pain appear. The hemorrhage is a result of ulceration and is usually the first symptom to appear. Slight at first, it is later profuse and alarming. The discharge is at first thin and watery; later it is turbid, bloody, and fetid. Pain is by no means constant and may be absent altogether if the disease is limited to the cervix. Pronounced pain, as a rule occurs in the advanced stages of the disease. Irritable bladder, cystitis, and alternating diarrhea and constipation are late symptoms of the disease. The cancerous cachexia is now present. In the early stage of the disease the diagnosis is difficult at times. The senses of touch and sight must be employed. Cancer is preeminently a disease of the child-bearing woman. Microscopic examination is invaluable and must be employed in every obscure case. The cervix is the usual site of invasion. Primary cancer of the corpus uteri is comparatively rare. Bacteriologic examination has added but little to our knowledge of this disease. Recurrence is apt to follow late operation. The patients often come too late for success. As a prophylactic measure, ulcerations, erosions, and lacerations of the cervix should all be repaired and the parts kept perfectly clean.

Dr. R. B. Hall of Cincinnati, Ohio, read a paper on "The Technic of Vaginal Extirpation for Cancer of the Uterus." He urged the necessity of careful preparation of the patient to be subjected to vaginal hysterectomy. The function of the kidneys should be carefully noted and the patient should be kept under care for a few days before operation. The extreme lithotomy position should be used, and the anesthetic should be chloroform unless the drug is contraindicated. If the case is one far advanced, with great sloughing, or one of epithelioma with a large mass of cancerous tissue, the operation may be done in two stages. The perineum is retracted by a short, broad speculum, and the vagina thoroughly scrubbed and carefully sterilized. A short curette cuts away the soft tissue and the thermocautery is applied. Ten days later the final operation may be performed, and the superficial tissue will be found comparatively healthy. Thorough curetting and the subsequent cauterization adds materially to the safety of the patient. The cervix is fixed with a strong volsellum, and the mucous membrane divided around the cervix one-half inch or more from the diseased tissue. The mucous membrane is then dissected back and the bladder freed. The wound is widely separated by the fingers introduced and separated; this displaces the ureters outward. A gauze pad is then

passed into the cavity and rests upon the uterus. The posterior vault is opened and gauze introduced behind the uterus. The first ligature of heavy silk twist is introduced by means of the Cleveland ligature carrier. If the disease is more marked on one side than on the other, the healthy side is first tied. A good button of tissue is left and one end of the ligature is cut short. This can be repeated on the other side alternately until, finally, a ligature passes over the top of the broad ligament. It is important not to include too much tissue in any one bite. The tubes and ovaries should always be removed. The operation is almost a bloodless one. An ounce or two of blood is all that is lost. The gauze prevents prolapse of the omentum and intestine. The bunch of ligatures is then tied together and the peritoneum closed above the ligatures by a suture running to the middle line and drawn taut. A corresponding suture on the other side completes the closure. The dressing of gauze which is now introduced is not removed until the fourth day. It is then not replaced, but a douche is given every three or four hours after micturition. He does not believe in the necessity of always catheterizing the ureters.

Dr. J. B. Deaver of Philadelphia read a paper on "Combined Abdominal *versus* Vaginal Hysterectomy for Carcinoma." He stated that the choice of route must be decided in every case. The glands should be extirpated as well as the diseased tissue, hence the abdominal route is to be preferred. The vaginal method will answer in some cases. The incision must be a long one and the field freely exposed. Abdominal hysterectomy offers the following advantages: It affords the only opportunity for removal of the pelvic glands. The author here gave a brief review of the anatomy of those glands. There are two chains of lymphatics to be considered, an upper and a lower one. It also affords a better area for complete extirpation of the carcinomatous tissue. There is lessened danger of injury to the ureters. Catheterization of the ureters is unnecessary and therefore an uncertain and frequently impossible step in the operation is avoided; further, the danger of kidney infection is avoided. There is lessened danger of hemorrhage on account of a better command of the field of operation. Consecutive hemorrhage is less liable to occur. The danger of infecting the peritoneum is lessened. The author has serious doubts as to the possibility of sterilizing any vagina. Most cases of abdominal hysterectomy need no drainage, but, if this be required, it is always best to make it suprapubic. In total extirpation the peritoneum can best be closed from above. There is no danger of prolapsing bowel. Vaginal hysterectomy is only applicable (1) in early carcinoma confined to the cervical or uterine canal; (2) when the uterus is small and easily movable. It is contraindicated when the cervical or uterine canal is affected and there is disease of the uterine appendages, as adhesions, pyosalpinx, ovarian cyst, or fibroid tumor.

Dr. W. H. Humiston of Cleveland, Ohio, read a paper entitled "Cancer of the Uterus." He urged the great importance of the general practitioner recognizing early malignant disease of the uterus. Immediate and complete operation should be insisted upon. Adenocarcinoma is the only form that involves the body of the uterus and it is the most common cause of metastasis. The epitheliomatous variety is comparatively slow to give rise to metastasis, and offers the best chances against recurrence after operation. If the operator waits for the classical two symptoms it will be too late to cure the patient. Adenocarcinoma of the cervix is the form of cancer most to be dreaded. There are three modes of recurrence: (1) By metastasis; (2) by incomplete removal of the infected areas; (3) by infection or direct implantation of malignant cells in previously healthy tissue at the time of operation. The practical import of this paper can be summarized thus: The importance of early differentiation of maligant growths of the cervix. Careful consideration of the importance of the lymphatic vessels and glands in their capacity as drains of different portions of the uterus. There are two distinct groups of lymphatics to be looked for. When the disease has passed beyond either group all chance of complete recovery is gone. Abdominal section with complete removal of the special groups of lymphatics alone offers a chance of recovery.

Dr. W. R. Pryor of New York spoke on "The Treatment of Cancer of the Uterus." He stated that in America cancer destroys 30,000 women annually. He believes the disease is due to a parasite, although this is not proved. Vaginal hysterectomy is firmly established in the opinion of surgeons, and yet it gives a mortality of 10 per cent. in the hands of the best operators, and recurrence is frequent. Hence, this operation cannot be endorsed. Amputation of the cervix also gives unfavorable results, although better than vaginal hysterectomy. It must also be prohibited. The operation is performed mainly to prevent recurrence and not so much for the disease itself. If the diagnosis is plain the case is a late case; if the diagnosis is obscure the case is an early one. Only in an early case is vaginal hysterectomy serviceable and even here its utility is doubtful. Byrne's method of electrocautery is valuable in certain cases. Other methods of treatment are to be condemned. Vaginal hysterectomy for carcinoma of the fundus gives a considerable degree of immunity. The vaginal operation, to be successful, must remove the uterus, appendages, glands, and upper third of the vagina.

Dr. Boldt of New York, in the discussion, said that cancer of the supravaginal cervix is the most difficult form to recognize and usually advances further before being recognized. The technic of vaginal hysterectomy as given by Hall is most beautiful, but the question arises, How many patients so operated upon remain free from recurrence two years afterward? A strong, short-jawed clamp will allow more tissue to be removed than will the ligature.

Dr. Baldy of Philadelphia said that there is nothing so irrational as vaginal hysterectomy however done. In arriving at conclusions it is not right to select cases, but to consider all cases of a class together. Cervical cancer and fundal cancer are two distinct classes. All cases of cervical cancer, in his experience, die sooner or later, either primarily or by recurrence. Fundal cases, with the exception of those who die under the operation, are cured. It is not fair to consider these two groups of patients together.

Dr. Carstens of Detroit believes that men who employ the abdominal method will have just as much recurrence as those who do the vaginal operation, and yet he does not like the latter operation. He has just as good results from curetting and cauterizing as from the major operation. In every case the prognosis must be made just as bad as possible.

Dr. Joseph Price of Philadelphia said that malignancy is never cured. On the Continent the diagnosis of cancer of the cervix is often made in simple erosion of the cervix. Hysterectomy is then performed, and these cases recover permanently. The free use of the curette and cautery gives as good results as any other treatment. In extirpation recurrences are common, but the deaths are easier.

Dr. Byrne of Brooklyn denied the legitimacy of hysterectomy for cancer of the cervix in any case. According to records it is not justifiable treatment. Excision of the diseased part by the heated knife is what he advocates. Deep cauterization and charring of the parts that are left will permit the patient to live many years. Some of his patients are living to-day, fifteen or twenty years after their operation.

Dr. H. A. Kelly of Baltimore read a paper on "Resection of the Ureter," in which he dwelt on the importance of the ureter as an emunctory and the danger of injury to it in abdominal operations. It may be cut on the surface of a fibroid uterus or be ligated far out with the ovarian vessels or torn in cancerous tissue. After an injury of a ureter it is first necessary to note if it be a dead ureter, that is, if there be no escape of fluid from it. Pass the hand into the abdomen and ascertain if the patient has a normal kidney on that side. If this be sclerotic or functionless, do not do a delicate operation. Uretero-ureterostomy is done when both ends of the cut ureter are accessible and the ureter has not been resected. Ureterocystostomy is done when the ureter is partially destroyed or one end is not accessible. Recently the author hos contsructed ureteral guides to enable one to suture the ends of the cut ureter accurately together, and, secondly, to bring a ureter of smaller caliber to fit a dilated ureter below. The instrument is introduced into the upper end of the ureter through an opening in the ureteral wall (ureterotomy) and stitches are passed through the edges of the divided ureter and the two brought together. He would never drain the abdomen after doing a ureterotomy. These instruments can be used very successfully in the performance of ureterocystostomy, being introduced through the bladder and the ureter pressed forward upon it, the end then being withdrawn into the bladder.

Dr. Dunning of Indianapolis reported a case of injury of the ureter in which he introduced a uterine sound through the bladder into the ureter and drew the latter down into the bladder. In another instance of ureteral injury he was compelled to extirpate the kidney.

Dr. Bovée of Washington stated that a number of operations of this kind had been done for other conditions than operative accident, as after childbirth or to correct abnormal openings in the ureter. Thus far there have been about 80 ureterocystostomies done. The best method in ureteral injury is to suture ureter to ureter; the next best consists in suturing ureter to the bladder. The great danger of the operation is too great tension of the ureter. It is also important to make the anastomosis into the bladder as oblique as possible.

The Symposium on "Inflammatory Diseases of the Female Genitalia" was opened by a paper by Dr. L. H. Dunning of Indianapolis, Ind., entitled "Acute Senile Endometritis." He remarked that the disease as described by Skene is essentially a chronic one, and does not include the cases described in this paper. There is an absence of hemorrhage in Skene's class of cases. The pathologic findings of the cases of the author show they are acute in nature and that they correspond to the cases described by Mundé. The author reports two cases showing a clinical history similar to cancer. In one case there was a cystic degeneration of the ovary and in the other a diseased tube and ovary with mild pelvic inflammation were present. The disease spreads by infiltration from contiguity. The characteristic pathologic features are thickened endometrium, increased vascularity, small round-celled infiltration, diminished glandular tissue, and degeneration of the coats of the vessels of the muscularis. There is not any increase of connective tissue or hyperplasia.

Dr. J. R. Guthrie of Dubuque, Iowa, read a paper on "Inflammation of the Fallopian Tube, with Special Reference to Specific Origin." He stated that the Fallopian tube has been long and persistently neglected. He then gave a brief history of the disease as culled from literature. Among the existing causes are direct injury, sudden checking of the menstrual flow, infection by the gonococcus, streptococcus, and staphylococcus. Latent gleet in the male may cause an acute infection in the female. The development of the disease is of almost incredible rapidity. Noggerath's dictum that "once infected, always infected" is a safe rule to follow. Tubal disease is largely of gonorrheal origin. The disease may be a simple salpingitis or a parasalpingitis may result. The author suggests that a committee be appointed to investigate the ravages of gonorrhea in the female. Syphilis may kill its thousands, but gonorrhea its tens of thousands. The

importance of gonorrhea in the production of tubal disease has not been appreciated.

Dr. A. H. Cordier of Kansas City, Mo., presented a paper on "Tubercular Peritonitis," in which he remarked that primary tubercular peritonitis may be produced by the presence of the tubercle bacilli in the blood. The cheesy masses may or may not contain living bacilli, but most of them at an early date contain spores which may produce trouble. In the early stage of the disease the ascitic fluid is bloody, showing a certain amount of acute inflammatory action. The quantity of fluid varies from a few ounces to several gallons. The pleura is more frequently involved than any other tissue by the tuberculous process. In tubercular peritonitis ascites is not as great as in cancer, nor is it as prone to become bloody. Pain is absent in many cases and may simulate gastro-intestinal colic. In some cases it is acute, with exacerbations simulating an acute septic type of peritonitis. In some cases the patients do not lose weight but may even gain in weight. Negroes are especially prone to this disease. Typhoid fever is the one disease most liable to be mistaken for this condition. In chronic cases diarrhea is apt to ensue. Constipation is noted in other cases. Sluggishness in circulation is noted locally and marked diapedesis is present. All fluid should be sponged out at the time of operation. Pockets must be opened, pus drained, and the abdominal cavity flushed out. Constitutional remedies should be used in all cases.

Dr. Philander A. Harris of Paterson, N. J., presented a paper entitled "A Plea for More Frequent Avoidance of Exsection of the Ovaries in Connection with Resection of Diseased Tubes." He stated that many gynecologists who began by removing the ovaries with the tubes are continuing to do so as a routine practice. Only a small proportion are now removing the tubes and leaving the ovaries. He claims that the good results which have followed removal of both tubes and ovaries for disease which was forming in the tubes can in most cases be secured without sacrificing the ovaries, thus preserving for such patients as much ovarian tissue, menstruation, and consequent ovarian influence, as possible, and not entirely, and so often unnecessarily, depriving them of the possibility of conception. He divides all conservative cases into two classes: (1) Any operation in which a portion of the tube is removed between the fimbria and the uterus, which he terms *amputation of the tube;* (2) cases in which an incision is made into the uterine wall and the tube removed, the uterine incision then being closed, which he terms *excision of the tube.* Excision neither arrests ovulation nor menstruation, but prevents fecundation. Pregnancy is possible if the stump remains patent. Complete removal of the tubes and ovaries results in arrest of menstruation and ovulation and thereby induces a series of phenomena indicative of the change of life. The patency of the tube has been noted in many cases after operation. Septic troubles may result from this condition and the symptoms of the disease persist after the operation. He believes many such stumps either have or subsequently acquire an ostrum abdominale. Removal of the disease from the Fallopian tubes and uterine sinuses will cure the disease in many cases without removal of the ovaries.

Dr. Joseph Price of Philadelphia presented a paper on "Appendicitis Operations in Young Women and Girls." He stated that his paper was a short one offered to invite discussion. It was formerly thought that appendicitis was more common in males than in females. He now believes that the proportion is about equal. Young students seem very prone to the disease. At times it occurs in several members of one family. Some cases in women are postpuerperal in origin. In about 9 per cent. of pelvic disease the appendix is involved and requires removal with the uterine appendages. It is unsafe to wait for subsidence. In such cases sloughing and abscesses will result. It is difficult to urge the profession to prompt interference. Certain localities seem to predispose to the disease. Thus, it is common in Morristown and West Chester and in a broad district of Philadelphia. Early interference always results favorably.

Dr. Dudley of New York stated that he is working in conservative ovarian surgery and has had 145 consecutive operations without a death, and 25 pregnancies have followed. In five cases he has removed the appendages, sewed over the stumps, implanted a section of an ovary in the fundus uteri, leaving one-half of the ovary dependant in the uterine cavity. Four of these women have continued to menstruate. In none of the five has the ovary been thrown off from the uterus, and in none have the symptoms of the menopause followed.

FOURTH DAY—JUNE 8TH.

Dr. B. B. Massey of Philadelphia read a paper on "The Treatment of Menorrhagia (Dysmenorrhea) of Pelvic Origin by Electricity." He strongly protested against the teaching of the text-books and journal articles which represent that dilatation of the cervix uteri is the preferable treatment of organic types of dysmenorrhea. He quoted instances in which this method of treatment was not only unnecessary and ineffectual, but actually harmful. He claims that electricity yields the best results in this condition and described in full the method of its application.

The Dosage of Orphol.—In all the instances in which the fecal discharges are unduly offensive orphol is exhibited, but usually in quantities too small to produce the best results. Bearing in mind the innocuous nature of the drug, the rapidity of peristalsis in most cases in which it is indicated, and the amount of material to be disinfected, the remedy should be given in relatively large doses (10 to 15 grains for adults) and frequently repeated.